AN EVALUATION OF A PILOT COMMUNITY-BASED, INTERDISCIPLINARY, PRIMARY HEALTH CARE TEACHING PROGRAMME FOR HEALTH SCIENCES STUDENTS

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ABSTRACT

The focus of this research is an evaluation of a pilot community-based interdisciplinary, primary health care teaching programme for health sciences students, at the University of Cape Town. The pilot programme was located in the Neighbourhood Old Age Homes project (NOAH) in Woodstock, Cape Town. The research took place in 1997, the year of implementation of the programme.

The evaluation focused on the perceptions and experiences of the staff and students who participated in the programme. Dietetic, medical, occupational therapy and physiotherapy students participated in the programme. The staff who planned and implemented the programme were interdisciplinary, representing all the above professions, including nursing and social work. The research attempted to gain an understanding of the contextual, curriculum and organisational conditions necessary for effective interdisciplinary education, as experienced by students and staff.

The study was contextualised within the changes taking place in higher education, the provision of health care services and health professional education in South Africa. The Woodstock Interdisciplinary Programme was contextualised within a review of interdisciplinary education internationally and locally. Discursive shifts within traditional and changing health professional education were analysed. This led to an exploration of discourse and role theory in relation to changing learner and educator roles and changing power relationships.

The research was conducted within a qualitative research paradigm. The main methodology was case study research and the form of evaluation was illuminative evaluation. Four semi-structured focus group interviews with 15 students and semi-structured in-depth individual interviews with all six participating staff were used to collect the core data. Since the researcher was a member of the planning and implementing staff, participant observation was also used as a method of gathering data. The data from the focus group interviews and individual interviews was coded, categorised and analysed. This constituted a rich core of information for the study.

Course evaluation forms, comprising mostly closed-ended questions, completed by 38 of the 41 medical students, were used in the analysis phase as a form of triangulation to increase the reliability of the results.

The research explored questions in relation to kinds of learnings gained; the students' and staffs' experiences of interdisciplinary learning; the conditions perceived as facilitating or hindering learning; the attitudes towards their own role and those of other health professionals and how students viewed the hierarchy within the health team. The findings supported the literature in that interdisciplinary education can be effective in a community-based setting using problem-based or orientated learning, but limitations may arise related to contextual, organisational and curricular factors. Students learnt about each other's roles and different approaches to health care. They all felt there was insufficient time to learn enough about each other and that they needed to learn and work together on a regular basis.

The findings illuminated the need to pay more attention to the disjunction that results from shifting discourses and associated shifts in learner roles, new professional identities and changing power relationships. The thesis ends with recommendations for curriculum development and suggestions for further research.

ABBREVIATIONS

AHPG	Allied Health Professionals Group
CAIPE	Centre for the Advancement of Interprofessional Education
CBE	community-based education
CWD	Catholic Welfare and Development
DEC	Department of Education and Culture
DoH	Department of Health
DT	dietetics (student)
FGI	focus group interview
FHS	Faculty of Health Sciences
MCQ	multiple choice questions
MED	medical (student)
NGO	non-governmental organisation
NOAH	Neighbourhood Old Age Homes
NUR	nursing (student)
OBE	outcome-based education
PBL	problem-based learning
PH	public health
PHC	primary health care
PT	physiotherapy (student)
UCT	University of Cape Town
UWC	University of the Western Cape
WHO/UNICEF	World Health Organisation / United Nations Children's Fund
WIDP	Woodstock Interdisciplinary Programme

USE OF TERMS

"Interdisciplinary"

Interprofessional; multidisciplinary; multiprofessional; shared learning; transdisciplinary; transprofessional are all terms that various authors use interchangeably and they often define each term differently.

In health care, the terms 'interdisciplinary'/ 'multidisciplinary or 'interprofessional'/ 'multiprofessional' are used to refer to a team of individuals, with different training backgrounds (e.g. nursing, medical, physiotherapy, occupational therapy, social work) who share common objectives and make a different, but complementary contribution.

What everyone is simply talking about, however, is 'learning together to work together.' (WHO, 1988)

For the purpose of the study, however, I will mainly use **'interdisciplinary.'** Other terms may be used interchangeably at times, especially if I am referring to another author's text, documents or quotes from interviews.

The terms below are generally used in the following way:

- 'Inter' to mean between (usually between two - others define it as two or more).
- 'Multi' to mean many

"Discipline"

I have used the term "discipline" to refer mainly to a particular health profession and not to an area of academic study.

"Professional"

I have mostly applied this term when referring to qualified people.

'Allied health professionals group' (AHPG)

This term refers to the students and staff of the departments and professions formally referred to as 'professions allied to medicine' (PAMS), which in this study include dietetics, nursing, occupational therapy and physiotherapy.

Chapter One

INTRODUCTION

1. INTRODUCTION TO THE RESEARCH.

This study focuses on a pilot interdisciplinary teaching programme for health sciences students. The study aims to evaluate the programme according to the contextual, curricular and organisational factors necessary for effective interdisciplinary learning as perceived by the students and staff participating in the programme.

In this chapter four aspects of the research are introduced:

- the development of interdisciplinary programmes are located within **the contexts** of *changes in higher education* and the *history of health care provision* and *health professional education*;
- the **introduction to interdisciplinary education and practice** within changing health care policy and systems;
- the **background to the case study** on which the research focuses is outlined; and
- the **aims of the research.**

2. THE CONTEXTS.

2.1 Changes in higher education.

Higher education nationally and internationally is changing to meet the challenges of the 21st century. The University of Cape Town (UCT) is attempting to embrace these changes in education, including professional education.

In 1997, the Vice-Chancellor of UCT, Dr Mamphela Ramphele, noted

> "The highly structured degrees include many of the 'professional degrees' ranging from engineering to medicine. Some have become uniform in construction with rigidly prescribed content. There is a risk of their becoming too inflexible and insufficiently attuned to the requirements of the 21st century where professional truths will be subject to rapid change. Our approach to degree programmes means that these degrees will be more flexible, combining the rigorous requirements of outside professional bodies with carefully chosen electives that offer students a range of alternatives. **These degrees will become more interdisciplinary, combining professional with generic skills such as professional communication."** [my emphasis]
>
> (Ramphele M, 1997:4)

Changes in higher education alone have not been the only factors leading to changes in health professional education. The historical changes in health professional practice, influenced by developments in health policy internationally, have had a parallel influence on recent health professional education and the move to interdisciplinary education. These influences are discussed briefly below.

2.2 History of health care provision.

In the pre-colonial era in South Africa, 'medical' practice or health care was embedded in the community and based on traditional healing.

> "Throughout the Third World, (which would include Africa and thus South Africa) traditional healers ... have for centuries been the major providers of health care"
>
> (Werner and Sanders, 1997:14).

Before the arrival of the colonialists, the dominant discourse in health could be largely described as holistic health care with an emphasis on prevention and promotion - living a healthy life-style based on (harsh) rural living. There were, however, abundant cattle, goats and sheep, sufficient land for grazing animals and for growing crops. Community 'laws' or practices controlled the spread of infectious diseases and promoted safe family spacing, breast feeding and healthy

nutrition.[1] In the period before the introduction of the mining industry, early colonisers recorded that

> "Those same early travellers who tell us that there was no TB amongst the original inhabitants, also describe the people as eating a diet that was adequate and well balanced, except perhaps in times of drought or war."
>
> (De Beer, 1984:8-9).

Health care practices were also holistic in terms of spiritual healing, counselling and the use of natural herbal medication. The 'text' would have been passed on by word of mouth, from the older to the younger generation, within the strong family structure and from traditional healer to their trainee(s).[2] Today this system continues, but has remained outside of what is regarded as the formal health system. Traditional healers and the elderly still provide an alternative service to the majority of the population, especially in rural areas and poor urban areas (Werner and Sanders, 1997).

It is not being suggested that there were no health problems or that there was no need for improved health services, but rather that the system that existed was ignored by the colonialists and the emerging colonial health system. As social and economic conditions changed and new diseases brought by the colonialists began to affect the indigenous population, no attempt was made to prevent or deal with the situation. On the contrary:

> "Prior to the nineteenth century, colonial medical services- provided by Western medical doctors... served their European employees almost exclusively."
>
> (Werner and Sanders, 1997:14).

1 Interviews with elderly members of an Indigenous Health Knowledge Project in Brown's Farm and Khayelitsha.

2 Interviews with elderly members of an Indigenous Health Knowledge Project in Brown's Farm and Khayelitsha.

With the establishment of colonial rule, the health care system in South Africa, as well as the education and training of health personnel in South Africa, was modelled on a Western health care system. It was based on the needs of the colonialists and on the diseases they brought with them from the West – e.g. scurvy, TB and other infectious diseases, which had not been heard of before they arrived.

The late nineteenth century was also the age of positivism in the West, in which major discoveries of science and technology were advocated for solving the world's problems. Health professionals believed that science could be used to "reverse the failures of human beings" and through this influence of scientific rationality, became 'medical technologists'. Human values such as *"sincerity, honorable reputation or righteous behaviour"* were lost to the scientific, empirical world of cause and effect (Raelin J A, 1985:86). Health care consisted mainly of expensive high technology in large, urban-based curative hospitals, with Western trained health providers (Werner D and Sanders D, 1997).

2.3 History of health professional education.

Professional education has generally been dominated by the *autonomy* of specific information for each profession. The health professions have been further separated and isolated from one another through the establishment of their respective professional boards which define and legislate practice, ethics and curricula as well as determine who gains entrance to the profession.

The dominant discourse of scientific and technical rationality prevalent in the mid-Victorian era influenced health professional education in the same way as it did health care provision mentioned above.

> "By the late nineteenth century, professionals found themselves invested with enormous powers and autonomy, because their knowledge was considered beyond the reach of ordinary people, including their clients."
>
> (Raelin J A, 1985:86-87)

In addition to possessing 'autonomous knowledge', a number of hierarchies exist in the health care sector which serve to keep the professions apart. There is a vertical hierarchical structure *within* each profession as well as a vertical hierarchical structure *between* them. Traditionally the doctor 'gives the orders' (especially in relation to nurses) and are necessary and responsible for referring clients to the other health professionals.

Consistent with this history, students of the health sciences - for example, medicine, nursing, occupational therapy, physiotherapy, speech therapy, audiology and dietetics - are trained separately.

> " Each profession sees to the achievement of its own standards of professional work. One profession does not, and necessarily cannot, have the expertise to tell the other what to do, since this knowledge resides in one profession only"
>
> (Walby and Greenwell et al, 1994:57)

3. INTRODUCTION TO INTERDISCIPLINARY EDUCATION AND PRACTICE.

The essential goal of interdisciplinary learning is "to enable learners to acquire knowledge, skills and professional attitudes they would not be able to acquire in any other way." (Parsell & Bligh,1998a: 89)

The main purpose of interdisciplinary education is to:

- gain deeper understanding of each other's professional roles and responsibilities;
- develop collaborative skills necessary for effective teamwork; and
- to increase common knowledge of particular clinical skills and topics.

(Parsell & Bligh, 1998a: 90)

These issues would be important in any teamwork situation, but are possibly emphasised when different professional groupings come together to work.

The move towards interdisciplinary teamwork between health professionals, (which in some instances includes social services) has grown over the last two decades, for a number of reasons.

- As mentioned above, there have been major changes in higher education in general to meet changing environments and ever-expanding knowledge in each specialist field.
- The increase in complexity of health care services, in terms of technology and knowledge, has affected professional training in the fields of health and social services.
- Health services have expanded to include community-based care, as well as maintain institution-based services.

These factors have been partly responsible for bringing together different but interlinked professional skills. This co-operation contributes to rationalising resources, lessening duplication of training and services and, ultimately, to providing a more effective, efficient and integrated service for both users and providers (Leathard, 1994).

This move towards interdisciplinary health teams is reflected in a clause in the Declaration which emerged from the International Conference on Primary Health Care held in Alma-Ata, USSR (Kazakhstan) in 1978 - namely:

> "**Primary health care...relies,** at local and referral levels, **on health workers,**...suitably trained - socially and technically - **to work as a health team** and to respond to the **expressed health needs of the community.**" [My emphasis.]
>
> Declaration of Alma-Ata, (WHO/UNICEF, 1978)

This Conference held over 20 years ago has been one of the strongest influences on changing health care delivery - and, hence, health worker education globally - over the past two decades.

The concept of PHC as defined in the Declaration[3], introduced a political philosophy that recommended radical changes to the content and system of health care delivery. The PHC approach advocated not only achieving equity in health care, but also addressing the underlying social, economic and political causes of poor health, thus enabling people to lead socially and economically productive lives (Werner and Sanders; 1997:18, Dennill et al, 1995:2,).

Since 1978, the principles enshrined in the Declaration of Alma-Ata - signed by representatives of 134 nations - have had a substantial affect on health policies and programmes in many countries. The principle that highlights the need for all health workers to form 'multi-disciplinary' health teams to enable communities to address their health needs effectively, is particularly significant for this country and this research.

The post-apartheid South African government demonstrated its commitment to restructuring this country's health system when it devised a new health plan for the country in 1996 according to the Alma Ata Declaration. This was outlined in an official policy document of the Department of Health (DoH) published in January 1996 called "Restructuring the National Health System for Universal Primary Health Care". One of the fundamental principles of the PHC approach incorporated in this new plan is the development of interdisciplinary and intersectoral teams.

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3 "Primary health care is essential health care based on practical, scientifically sound and socially acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and at a cost that the community and country can afford to maintain at every stage of their development in the spirit of self-reliance and self –determination. It forms an integral part both of the country's health system, of which it is the central function and main focus, and of the overall economic development of the community. It is the first level of contact of individuals, the family and community with the national health system, bringing health care as close as possible to where people live and work, and constitutes the first element of a continuing health care process."

Declaration of Alma-Ata, (WHO/UNICEF,1978)

With the introduction of the primary health care (PHC) approach - which advocates the development of intersectoral[4] collaboration and interdisciplinary teamwork for effective health care provision - two important issues emerge in terms of education and thus curriculum development.

1. The boundaries of 'autonomous' knowledge will need to be weakened and a larger proportion of the curriculum will need to be allocated to 'shared learning' or interdisciplinary education.
2. Accountability structures may have to change to enable strong, horizontal team leadership to emerge. At present, the practice of vertical reporting within each profession could seriously hamper the development of innovative shared learning and teamwork across professions.

(Although the second point is an extremely important aspect of interdisciplinary work, it will not be the focus of the research. It would be important to research this in the future.)

Consequently, interdisciplinary programmes have been initiated for health sciences students at both UCT and the University of the Western Cape (UWC) since the mid-90s (Stern, 1996).

Although South Africa has only adopted the PHC approach relatively recently, many countries in the world implemented changes in health policy and training of health professionals much earlier, largely under the influence of the 1978 Alma-Ata Declaration. While most interdisciplinary programmes developed and proliferated in the 1980s and 1990s, some countries had implemented interdisciplinary training programmes even before 1978. Egypt did so as early as the 1960s (WHO, 1998:8) and Adelaide, Australia as early as 1976 (Leathard, 1994:25).

4 "Intersectoral" refers to (collaboration between) different sectors such as health, education, law, public works, agriculture, housing etc.

Despite the establishment of these programmes, however, there is not yet enough evidence to establish whether 'learning together' during basic training results in better 'working together' in practice." (Parsell & Bligh, 1998a:89). Nor is there enough evidence to substantiate the expectation that collaboration leads to improved quality of care which has furthered the wellbeing of individuals or communities (Leathard, 1994:7). These important issues need to be further researched, both to establish reliable assessment criteria and to measure the impact of collaborative care. McGrath states that although co-ordination is acceptable as a valuable goal, what has remained "effectively intangible" is how to assess its outcome (McGrath, 1991; cited in Leathard, 1994).

There are a number of programmes implemented by educators of health sciences students that prepare students for working in complex interdisciplinary environments and which attempt to develop the attitudes and skills necessary for interdisciplinary teamwork (Parsell & Bligh, 1998a:89). The research that follows seeks to explore the effect of interdisciplinary education on students, through an evaluation of a pilot interdisciplinary teaching programme for health sciences students at the UCT, and UWC known as the Woodstock Interdisciplinary Programme (WIDP).

4. BACKGROUND TO THE CASE STUDY: THE WOODSTOCK INTERDISCIPLINARY PROGRAMME (WIDP).

4.1 Introduction to the case.

The interdisciplinary case study I chose to research in 1997 was based at the Neighbourhood Old Age Homes (NOAH) in Woodstock, Cape Town. NOAH is a project under the auspices of Catholic Welfare and Development (CWD), a church-based, non-governmental organisation (NGO) which has a variety of projects in the Western Cape. At the time of the research, NOAH was the only

community-based site which already accommodated students from more than one discipline - namely from occupational therapy (OT), nursing (NUR), dietetics (DT) and physiotherapy (PT). My choice of this project was therefore based on this unique possibility.

The description of the planning of the core curriculum concentrated on the period January 1996 to January 1997, at which date the WIDP was implemented. The history acknowledges, however, that discussions and planning of the programme proceeded this period.

During this time I was employed as Site Development Co-ordinator in the Primary Health Care Department in the Faculty of Health Sciences (FHS), UCT. I was responsible for implementing and further developing a new PHC course for 4th year medical (MED) students at four community sites in Cape Town, namely Woodstock, Khayelitsha, Mamre and Mitchell's Plain. [5]

In addition to co-ordinating the community-based PHC courses at these sites, I was also responsible for joining with or initiating interdisciplinary programmes with lecturers from other departments who supervised community-based placements of students at these sites.

5 The PHC course is run jointly by the Departments of Primary Health Care (PHC) and Public Health (PH) for an eight-week period, five times a year. (For the remainder of the year, the fourth year MED students rotate through an eight-week block in Obstetrics and 24 weeks of Medicine.) These courses are all institution-based, mainly in hospitals, except for a week of Obstetrics in a primary care Maternity Obstetric Unit.) Each eight-week block accommodates 32 students, who divide themselves into four groups of eight. Each group selects one of these sites for their eight-week placement. Although the students carry out research and health promotion projects requested by a variety of organisations, their main base at all four sites is with a specific NGO which practices and promotes the integrated PHC approach to health care.

4.1.1 Crossing the boundaries.

As already noted, students from four disciplines - namely occupational therapy (OT), nursing (NUR), dietetics (DT) and physiotherapy (PT) - were already based at NOAH prior to the commencement of the PHC course for MED students in 1996. Significantly, however, they were there for different periods of time, and had separate tasks and learning objectives to fulfil. Until the WIDP was implemented in 1997, students from different disciplines had not learned or worked together. Even when the programme was implemented, it was limited to four, weekly sessions (one home visit and three seminars) each of two hours' duration. The rest of the time, students worked separately on their discipline-specific, community-based projects or clinical placements. The students are not assessed on the interdisciplinary experience unless it was built into the overall assessment of their community-based placement. [6]

Disciplines such as OT, PT and nursing had already embraced the PHC principles for a number of years. Some of their curricula reflected this in terms of moving towards community-based education with an added emphasis on prevention, promotion and rehabilitation, rather than cure alone. Their tasks and learning objectives are a mixture of individual and group clinical, rehabilitative and curative care and community-based research and health promotion projects. As mentioned above, this approach was only explicitly introduced into the medical curriculum, mostly in theory in their first year in 1995 and in practice in their fourth year, in 1996.

6 For example the MED students could chose to answer an exam question on interdisciplinary education. It could not be compulsory, however, as the MED students at other sites were not exposed to interdisciplinary education.

4.2 Students participating in the programme.

From 1996 onwards, as part of their discipline-specific community-based placements, 4th year MED students joined the OT and DT students from UCT and PT students from UWC, already placed at the NOAH project. Apart from the DT students, all students participating in the programme are involved in a community-based placement in the Woodstock community. The emphasis during this placement differed according to their discipline-specific learning objectives. For some students, community-based geriatric care is emphasised, while others are involved in clinical care in a community setting or community-based research and health promotion - or a combination of the above. (See Table.1. below, for an explanation of each specific discipline.)

Of the students placed at NOAH, the OT students are in their final (fourth) year, the PT students in the third year of a four-year degree, the MED students in their fourth year of a six-year degree, and the DT students are in their final year of a two-year post-graduate Honours degree.[7]

In terms of gender, female students are generally in the majority. This is so, even amongst the MED students (which is in keeping with the overall statistics of MED students in 1997, the year of this research, at UCT, where 56% of students were female). The DT, PT and OT students are predominantly female. In contrast to medicine, the work of the 'allied health professionals group' (AHPG) has always been regarded as 'women's work'. This has in part influenced the 'lower' status of the AHPG. The gender ratio of the MED students is changing much faster than the other professions. This phenomenon - as well as the implementation of the PHC approach (which aims to create equal status within the health team) and the shortening of the MED curriculum in a number of universities to five years - may assist in the principle of building greater equality within the interdisciplinary health team.

7 Information gained from pre-course questionnaires.

TABLE 1

Explanation of students and their community placements.

(Number of students specific to the group interviewed in 1997.)

Students –	**DT (UCT)**	**MED (UCT)**	**OT (UCT)**	**PT (UWC)**
Year of study	1st/2nd year Honours	4th year	4th year	3rd year
Number of students	2	8	2	3
Duration of community placement (block)	6 months	8 weeks	6 weeks	6 weeks (only 3 weeks at NOAH)
Name of community placement	not necessarily in a community block during this period	PHC/public health	community placement	community geriatrics
Discipline-specific objectives	depending on placement at the time	research and health promotion projects	clinical care and health promotion projects	clinical care and health promotion projects

TABLE 2

Demography of students.

(Number of students specific to the group interviewed in 1997.)

Discipline	**DT (UCT)**	**MED (UCT)**	**OT (UCT)**	**PT (UWC)**
Gender:				
• Female	2	5	2	2
• Male		3		1
Race/class*				
• White	2	2(F) + 3(M)	2	
• Black **		3(F)		3
Schooling				
• DEC		3(F)		3
• Private		3(M)		
• Model C	2	2(F)	2	

* In South Africa, due to the previous apartheid policies, race has historically been closely linked to class as well as to the type of schooling attended.

** "Black" includes all groups classified "Non-European" under the apartheid system. In the case of the above students, all would have been classified "coloured" under apartheid terminology.

The majority of students from UCT were 'white' and all students from UWC were 'black', directly reflecting the apartheid legacy of these institutions. UCT was previously a 'white' University (with laws preventing 'black' students from attending UCT) and UWC was specifically established as a 'black' University.

The 'black' students all attended schools that had previously been under the Department of Education and Culture (DEC) which had been designated for persons classified 'coloured' under apartheid laws. These schools still show evidence of this history through their inferior facilities and resources compared to the schools which had previously been designated for `white' children and which were converted into well-resourced "Model C" schools in the early 1990s.

There is a bias in the demography of the MED students at the NOAH project as there are no black 'African' students. When choosing their site for the block, most students selected the site with which they felt most familiar and comfortable. 'African' students mostly selected Khayelitsha (an informal Black 'African' settlement.

4.3. Planning and implementation framework.

Although discussions and planning had taken place before 1996, a Curriculum Development Facilitator from the Academic Development Programme at UCT formally joined the interdisciplinary planning team[8] at the suggestion of the Site Facilitator for Woodstock. Her role was to assist in developing the core interdisciplinary curriculum to be implemented at the NOAH site in 1997.

8 The interdisciplinary planning team consisted of lecturers from the various departments who were responsible for the placement of students at the NOAH in Woodstock, namely staff from OT, PT, DT and NUR Departments. There was also a number of staff from the Department of Primary Health Care (the department supervising the MED students). These comprised the Site Facilitator (who had a Social Work background) who was to play a central co-ordinating role in the practical implementation of the programme, the Site Development Co-ordinator (Nursing background) and the Assistant Course Co-ordinator (a Medical Doctor).

The process of curriculum development was completed in November 1996. The first course was implemented in January 1997 and consisted of one interdisciplinary home visit by small teams of students and three two-hour seminars in a seminar room at the NOAH project. At the time of this research (August, 1997), the programme had been repeated three times, each time with a different group of students.

To analyse the pilot interdisciplinary programme, I used Harden's "three dimensional perspective" of multiprofessional education, in which he describes a three-dimensional model which "offers a tool which can facilitate the planning and implementation of multiprofessional education. It is also useful for analysing case studies in the field of multiprofessional education." (Harden RM, 1998:402). It is significant to note that we inadvertently applied most aspects this model in setting up the programme, despite our not knowing about it at the time.

In Harden's opinion,

> "The question with multiprofessional education is not whether it is effective or not. Rather it is in what circumstances can this important education strategy be made effective?"
>
> (Harden RM, 1998:402)

According to his model, the three aspects essential to consider when devising a multiprofessional programme are

1. the context;
2. the curriculum goals; and
3. the approach adopted to multidisciplinary education.

I shall use these aspects, albeit retrospectively, to describe the processes and debates in which we engaged.

4.3.1 The Context.

This section deals with the context in which the model was applied – i.e. "the phase or stage of education of the students, the category of students and the learning situation or educational format" (Harden R.M, 1998:402).

We began the process by discussing why we wanted to start a pilot interdisciplinary programme. Our major rationale was that we all supported the National Department of Health's policy of "Restructuring the National Health Service for Universal Primary Health Care." In addition, we recognised the argument that only an interdisciplinary and intersectoral team can meet the health needs of communities (WHO, 1978; WHO, 1988; Bajaj, 1994).

In supporting the PHC approach, we therefore needed to support the development of interdisciplinary health teams and were committed and motivated to develop and pilot a training programme to that end.

> "The success of the primary health care movement to a very large extent depends on the effective and efficient functioning of the team as a whole."
>
> (Bajaj, 1994:86)

As there were students from diverse disciplines involved at NOAH, it was possible to consider their participation in an interdisciplinary pilot programme that would enhance their community-based experience.

The question, as mentioned by Harden above, is not *whether* this educational strategy should be implemented, but *at which stage* of training. Some of the literature supports starting at the postgraduate level when students are familiar and comfortable with their professional role and identity. We felt that this may have suited the previous system of health care delivery, where different professional group's train and mostly work separately. This appears, however, to oppose the principles of PHC and the delivery of health care through interdisciplinary and intersectoral teams. A statement by the WHO Study Group

on the team approach in health professional training appears to support our view:

> "To sum up, experience indicates that, for best effect, formal multiprofessional education needs to be introduced early in basic training or undergraduate educational programmes, continued throughout a curriculum, and then continued in post basic, postgraduate and continuing education programmes."
>
> (WHO, 1978:428-30)

We supported the idea that new identities and roles need to be developed within the framework of a team approach from an early stage. We therefore chose to introduce the pilot programme at the undergraduate level to test some of these assumptions.

In our particular situation, the students had already been placed at the NOAH in order to fulfil discipline-specific (learning) objectives. It was therefore impossible for us to choose students at a particular phase of their education for the interdisciplinary training programme. As shown in the chart above they were, in fact, all at different stages of training.

- Being in their final year, the OT students, were the most experienced in their field.
- The MED students had just completed their first three years of pre-clinical study, which comprises mainly of the basic and human sciences. In their fourth year, they are at the beginning of three years of training and practice in their field.
- The DT students were in their second year of a postgraduate Honours degree. Like the MED students, they had completed a three-year B.Sc. (in dietetics) before the Honours Course in dietetics where they begin their clinical practice.
- The PT students were in their third year, but like the OT students, they start training and practising in their field from the first year of study.

The planning group discussed these differences at length and felt that they would enhance rather than hinder the learning situation. Our rationale was that, in terms of power relations, the MED students would normally dominate, already

reflecting the pattern in employment in which doctors dominate the AHPG - and in this instance, there were also numerically more MED students. We felt these factors would be counteracted by their inexperience relative to the other health professional trainees in their team.

The students were learning in a community setting and dealing with real situations, an educational strategy generally accepted as effective in interdisciplinary education (WHO, 1988). The educational format was in the form of seminars, using small group discussions based on experiential learning with an element of problem-based learning. Included in the programme was an initial home visit to a client by a small interdisciplinary team of two or three students.

4.3.2 The curriculum goals.

This section deals with the curriculum goals i.e. "the expected outcomes of the training programme" (Harden R.M, 1998:402).

As already mentioned, each discipline had its own separate curriculum objectives for the duration of the students' community placement. The similarities for most students were that the context was community-based education with an emphasis on the PHC approach to health care.

In addition to their discipline-specific curriculum, however, we planned a core interdisciplinary curriculum with goals that encouraged the sharing of knowledge and roles and that allowed the students to exchange their varied perspectives. The overall aim of the ***core interdisciplinary programme*** was

- to support the students in further developing a theoretical framework of PHC;
- to allow students to apply the PHC principles at specific community sites in the context of a interdisciplinary team; and
- to encourage students to reflect critically on and assess this exposure.

(Core Interdisciplinary Curriculum, internal document, 1996.)

We devised three interdisciplinary weekly seminars, of two hours each, to achieve these outcomes. They were based largely on experiential learning and elements of problem-based learning (PBL) and focused on

1. multidisciplinary PHC management of a specific case study (with a home visit prior to the seminar);
2. wellness and health; and
3. suffering.

The team of lecturers collaboratively chose topics for the seminars that were common and important to all disciplines, especially within the context of the PHC approach. In addition, these particular topics were often neglected in the traditional biomedical approach to training health professionals, especially in MED student training.

SEMINAR 1: Multidisciplinary PHC case management.

The students were divided into interdisciplinary teams of two or three to visit a client of the NOAH project a week before the seminar. During the visit they obtained

- a history of the individual's life, health and illness;
- their main problems;
- their coping mechanisms and
- the services they used within or outside of the community.

At the beginning of the first seminar, the students presented their cases. In small groups, they discussed the possible roles of each represented discipline on all aspects of health care i.e. preventive, promotive, curative and rehabilitative care related to their client. They also had to devise a management plan for more appropriate health service utilisation.

The aims of this seminar were for students

- to gain an understanding that PHC management encompasses preventive, promotive, curative and rehabilitative strategies;
- to gain awareness that care-givers, community resources and support groups are part of the PHC management;
- to gain an understanding that this approach requires an attitude of respect, mutual learning and problem-solving;
- to gain insight into the roles and responsibilities of the various health professionals who make up the multidisciplinary team;
- to gain practical understanding of the different types and levels of health care their clients used; and
- to use each other's experience and knowledge to formulate appropriate interventions in the quest for health and wellness of their client.

(Multidisciplinary PHC case management seminar, internal document, 1996)

SEMINAR 2: Wellness.

The second seminar aimed to enable the students to examine the concept of wellness critically. Before the seminar, all participants completed their own 'Wellness Inventory' [9] and watched two videos clips, one dealing with disability and the other with the effects of unemployment. The discussion on the video clips started by using the World Health Organisation's definition of health as a benchmark for defining health:

> "Health is a state of complete physical, mental and social wellbeing, and not merely the absence of disease and infirmity. Health is a fundamental human right and the attainment of the highest possible level of health is a most important world-wide social goal whose realization requires the action of many other social and economic sectors in addition to the health sector."
>
> (WHO, 1978:428-30)

9 See Appendix A.

At the end of the seminar, students would be able to

- identify factors which contribute to a state of wellness and prevention of disease;
- explain the health professionals' roles in promoting wellness by relating these concepts to the individual they visited;
- debate issues of personal `rights and responsibilities' in maintaining health and wellness, relating this to their client as well as their own 'wellness inventory';
- find policies currently in force relating to health and the maintenance of wellness; and
- identify existing facilities in the local area, which promote health and wellness.

(Wellness seminar, internal document, 1996)

SEMINAR 3: The nature of suffering.

This topic was introduced through readings the students had to complete before the seminar. The objectives of this seminar were for the students

- to gain an understanding of the term 'suffering';
- to learn about suffering through a 'clients' perspective (through the readings);
- to reflect on the meaning ascribed to suffering related to the 'clients' life experience and cultural beliefs;
- to use the individual they visited to describe the situation of a client in the community related to the topic of suffering and
- to think how they can use their professional role to alleviate suffering, and the limitations they carry in that role.

(Nature of suffering seminar; internal document, 1996)

Overall, the specific **competences** we wished to impart to the students through these three interactive seminars and the one home visit were:

- ***Knowledge*** of
  - the skills and resources of team members and the community;
  - the PHC service as a workable system (illustrated by a site, in this case NOAH) and generalisation of learning to other situations;
  - appropriate forms of community entry;
  - the roles of each profession and the multi-faceted role of the health professional e.g. healer, clinician, planner, facilitator, motivator, educator, advocate, mediator; and
  - effective health promotion and primary, secondary and tertiary prevention.
- ***Skills***
  - to function within the multidisciplinary team;
  - to communicate effectively with clients (individuals and groups), team members and community structures;
  - to form, if appropriate, and develop partnerships with stakeholders in the health team e.g. students, service providers, families, 'community carers';
  - to establish alliances with client groups, such as support groups, within the team context; and
  - to use clinical reasoning skills effectively.
- ***Attitudes*** which show
  - respect for the ability of all members of the health team (which includes the client) to contribute to the achievement of the aim;
  - empathetic, client-centred health care;
  - respect for community involvement in health care; and
  - a comprehensive approach to health and wellness.

(Core interdisciplinary course outline, internal document, 1996)

4.3.3 Approach adopted towards interdisciplinary education.

This section deals with the different approaches adopted towards interdisciplinary education.

> "Multiprofessional education is not one entity, but a continuum with a number of clearly identifiable steps or stages."
>
> (Harden R.M, 1998:402)

The World Health Organisation defines multiprofessional education as

> "The process by which a group of students (or workers) from the health-related occupations with different educational backgrounds learn together during certain periods of their education, with interaction as an important goal, to collaborate in providing promotive, preventive, curative, rehabilitative and other health-related services."
>
> (WHO, 1988:6)

It has been argued that there are different facets and approaches to multiprofessional education. Harden, 1988 has described 11 steps in a continuum, with isolated discipline- or subject-based teaching at one end, and integrated or multidisciplinary education at the other.[10]

According to Harden's continuum, at the one end of the scale, uniprofessional education represents a *"lack of awareness"* of, and *"different content"* to, other professions. The method of education is mainly *"received learning"* and the site of education is largely the *"classroom"*. At the other end of the scale there is *"empathy and appreciation"* of the various disciplines and content is *"comparative."* The method is *"interactivity between professions"* and the site is mainly *"clinical practice."*

10 See Appendix B.

Using Harden's continuum, our programme is best described as Step 7, termed *"correlation."* This describes a situation where a curriculum is otherwise uniprofessional, but some sessions (e.g. the three topics of the interdisciplinary seminars discussed earlier) are developed for multidisciplinary teaching. Within the seminars, however, there are elements of Step 10, termed *"interprofessional."* In this situation each discipline/profession *"looks at the subject from the perspective of its own and other professions."*

(Harden R.M, 1998:404-407)

I have applied the 'steps' that best describe the approach of the isolated interdisciplinary programme described above, according to Harden's continuum. It is important to stress, however, that although the sessions of this programme are held regularly and attendance is compulsory, it is not part of any formal curriculum. In addition, as mentioned before, students are not formally assessed for participating in the course.

5. AIM OF THE RESEARCH.

The aim of the research is to evaluate elements of the pilot programme according to theoretical concepts and guidelines for interdisciplinary education and training. The evaluation focuses on students' perceptions of what learning took place and the conditions that facilitated or hindered interdisciplinary learning as perceived by the students and staff participating in the programme. It aims to illuminate the significance of interdisciplinary education and training of students, within the Faculty of Health Sciences, especially within the context of the primary health care approach.

The purpose of the research is to analyse and gain an understanding of student and staff experiences of the pilot interdisciplinary programme. The research seeks to explore the following questions:

1. What kinds of learning were gained?
2. What were students' and staffs' experiences of interdisciplinary learning?

3. What conditions were perceived as facilitating or hindering learning?
4. What were the students' attitudes towards their own role and that of other health professionals?

   and

5. How did students view the hierarchy within the health team – how did they perceive the status of each profession and the status of different types of knowledge?

I hope that this study will contribute to an understanding of the contextual, curriculum and organisational conditions necessary for effective interdisciplinary education. While the findings may not be generalisable within a different context, the understanding gained may assist in establishing basic principles to guide the successful development of future interdisciplinary programmes.

Chapter Two

LITERATURE REVIEW

In the previous chapter I located interdisciplinary education within the broader context of social and political change and introduced the interdisciplinary case study which forms the centre of this research. In this chapter I establish the conceptual framework for my analysis of interdisciplinary education and draw on previous studies to assist in determining the relevant theoretical issues related to research and evaluation of interdisciplinary education.

1. A CONCEPTUAL FRAMEWORK FOR ANALYSING AND UNDERSTANDING INTERDISCIPLINARY EDUCATION.

> "Multiprofessional education is not an end in itself, but a means of ensuring that different types of health personnel can work together to meet the health needs of the people."
>
> (WHO,1988:7)

In this study I have related the proliferation and advancement of interdisciplinary education largely to the adoption of the PHC approach (Alma-Ata 1978, WHO/UNICEF) in many countries in the world. Within the PHC context, the aim of interdisciplinary education is to develop teams of health personnel who collaborate to promote conditions conducive for health or to solve priority health problems of individuals or communities. In many situations, this cannot be achieved by a single profession or even a single sector.

1.1 The PHC approach.

Approaches to health and health care have changed over the years. The advent of the PHC approach has been a catalyst for many paradigm shifts. The PHC approach takes a broad view of health, emphasising the multifactoral determinants necessary for good health. PHC embraces

- the discourse of health as opposed to disease;
- preventive and promotive as opposed to curative health care;
- community-based as opposed to institution-based care;
- health care determined by community needs as opposed to the development of medical sciences determined by the scientific community;
- interdisciplinary and intersectoral teamwork as opposed to strong boundaries which insulate disciplines and sectors from each other.

PHC does not exclude or devalue curative health care, but embraces the concept of holistic health care which includes preventive, promotive, rehabilitative and curative care, with the emphasis on the former strategies.

For the majority of health care professionals and students in training, PHC represents a significant shift in emphasis, requiring a thorough re-orientation in the education and training discourse and in the practice of health professionals. According to Fairclough, such a discursive change would involve "forms of transgression, crossing boundaries, such as putting existing conventions in new combinations, or drawing upon conventions in situations which usually preclude them...re-articulating new orders of discourse, new discursive hegemonies."[1] (Fairclough,N. 1992:96-97)

1 I discuss the discursive changes later in this chapter under the heading 'Shifting discourses in health worker education'.

Crucial in the implementation of PHC is the principle of community participation, giving the community the power and authority to determine their own health needs and services; to make decisions regarding the planning, implementation and evaluation of service strategies, usually through elected health committees in communities in partnership with health professionals. This implies health worker accountability to communities and health teams that incorporate not only professionals, but also individuals, families and communities affected by the health problems.

Taking into account the above, as well as the emphasis on interdisciplinary and intersectoral teamwork, the 'text'[2] within the curriculum of health worker training is changing. The new 'text' will not only include the biomedical model of disease based on the illness of an individual, but will predominantly take a sociological view of health. Health workers will need to understand the socio-economic and political causes of much of the ill health that prevails (in South Africa). To incorporate the new 'text' and practices, the methods of knowledge production, dissemination and acquisition are in the process of changing. The site of training is also shifting, of necessity, to communities and to primary care facilities which are more community-based than secondary and tertiary hospitals.

I find the conceptual framework described by Bajaj[3] useful for contextualising the need for interdisciplinary education (See Figure 1 below). Bajaj describes health not only as an indicator of quality of life, but also as a determinant of the quality of life of a person or community. Health and quality of life cannot be separated from socio-economic and political conditions or from the way health care is organised and delivered.

---

2 The term 'text' above is used metaphorically rather than literally, suggesting different discourses in the training curriculum. Fairclough, 1992, refers to the production, distribution and interpretation of the 'text' within particular discursive and social practices. Wording and meaning can vary depending on their political and ideological significance (Fairclough.N, 1992). Depending on the prevailing discourse 'Primary Health Care' is interpreted narrowly as 'a clinic in a community' or broadly as defined at Alma-Ata.

3 J S Bajaj is the President, South East Asian Regional Association for Medical Education.

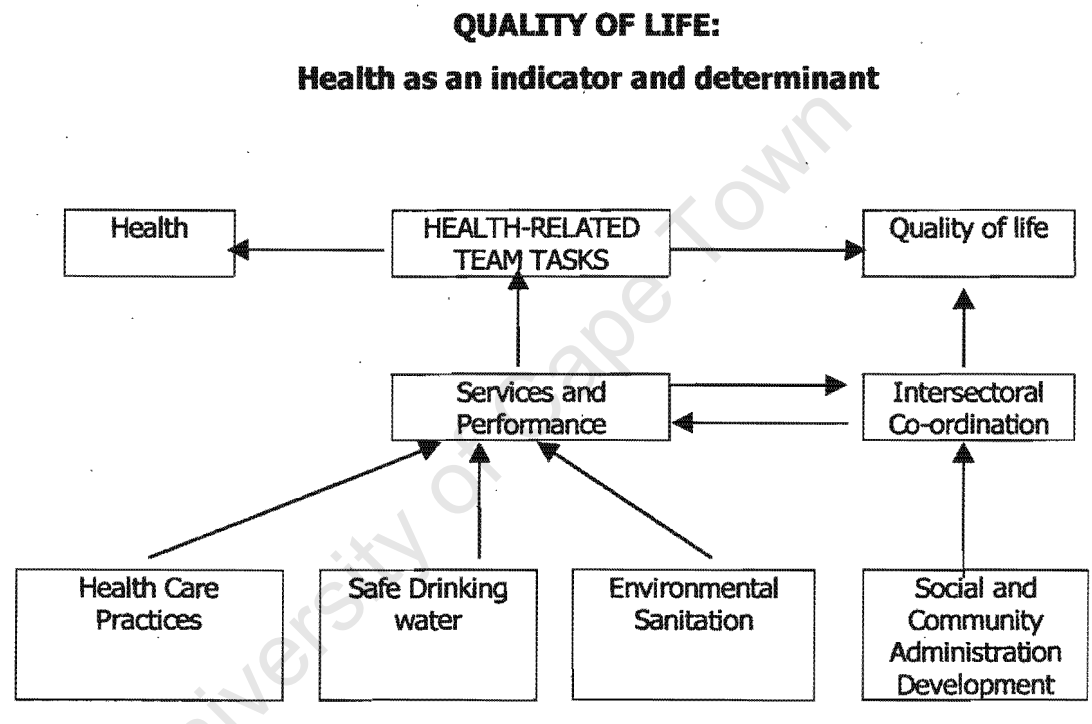
"The ultimate objective is to contribute collectively towards enhancement of quality of life through health related intervention and intersectoral interaction, effectively utilizing all available human resources for health."

(Bajaj,1994:86).

FIGURE 1.

Conceptual framework for multiprofessional education.

(Bajaj JS,1994:87)



The diagram above demonstrates the context, conditions and services needed to achieve a healthy community. The training of multiprofessional health teams who collaborate intersectorally are necessary to improve the quality of life. Health and the quality of life cannot be separated from socio-economic and political conditions or from the way health services are delivered.

Bajaj then links the pedagogic perspectives and the essential link between health services and multiprofessional education (See Figure 2 below.).

This complies with much of the literature that the ultimate goal of health workers is to help individuals and communities reach their optimal level of health, as a fundamental human right (WHO,1978; Bajaj,1994; King,1996).

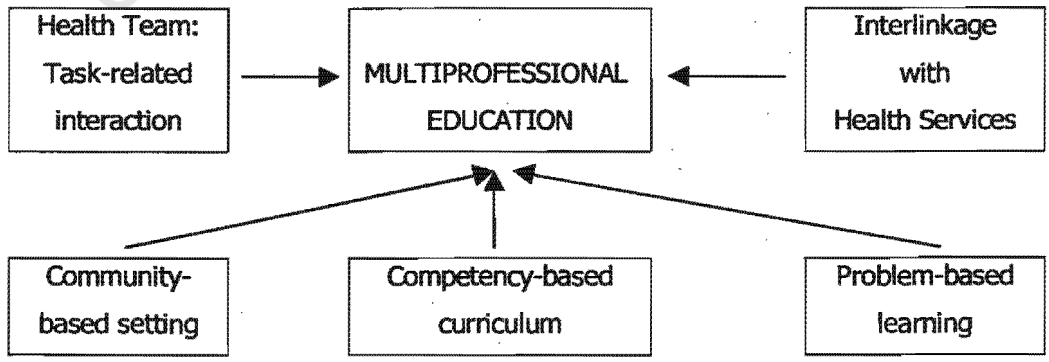
To achieve this goal, health workers need to work in a team and to collaborate with other sectors to meet the complex health needs of communities. Health workers need to be trained in a community setting and in such a way that they are sensitive to community needs, are able to work in a team and are able to analyse and solve or improve health problems. The pedagogic perspectives that Bajaj and others support to produce health workers with the above abilities are based on being trained in a real situation (community and/or clinical setting) , according to a competency- based curriculum with a problem-based learning approach.

> " A competency-based education employing a task-related and problem-solving approach and in the learning setting of the community, seems to be an effective combination for multiprofessional education (Figure 2.)
>
> (J.S. Bajaj,1994:88)"

FIGURE 2.

Pedagogic perspectives and health service interlinkage of multiprofessional education.

(Bajaj JS,1994:88)



The framework described above is a radical shift away from the prevailing situation at most medical schools where most of the training of health professionals takes place in hospitals which are usually far removed (geographically and, most times, culturally) from the communities they service. The curriculum is based on diseases with a major orientation to tertiary[4] care, which reflect First World needs and not the common health problems of the majority of the population. Psycho-social and economic conditions causing ill health are largely ignored (Bajaj,1994).

Having set the conceptual framework I looked at previous research studies that reviewed interdisciplinary education.

2. A REVIEW OF RESEARCH ON INTERDISCIPLINARY EDUCATION.

From the literature review it is presumed that interdisciplinary teaching and learning between health sciences students will increase collaborative behaviour - as a result of which the quality and outcomes of health care to individual clients and communities will improve (WHO,1988; Bajaj,1994; Barr and Waterton,1996). While there is inadequate evidence for saying this definitively, the World Health Organisation (WHO) publications and the Centre for the Advancement of Interprofessional Education (CAIPE) BULLETIN both emphasise the need for more interdisciplinary education for health sciences students in line with changing health policies and meeting the changing needs of communities.

The CAIPE conducted a survey in 1994/1995 to investigate interprofessional education and training in community-based health and social care throughout the United Kingdom. It found that the main reasons for starting interprofessional education and training were related to three basic ideas:

4 Specialist hospital care.

1. **to effect change** by responding to new and changing health/social problems and implementing changing health and social policies;
2. **to encourage collaborative practice** by integrating and co-ordinating services to users, promoting teamwork, meeting common needs across professions and enlarging markets as well as ensuring viable numbers; and
3. **to meet educational objectives** such as meeting common learning needs across professions, implementing educational policies, learning from and about one another, widening the choice of studies and creating a flexible, transferable workforce.

The survey showed that interprofessional education initiatives were varied and increasing. They were serving a wide range of purposes and constantly evolving and developing. The common aspirations and principles, which serve as indicators of effective interprofessional education, are summarised as follows:

- works to improve quality of care;
- focuses on the needs of service users and carers;
- involves service users and carers;
- promotes interprofessional collaboration;
- encourages professionals to learn with, from and about one another;
- enhances practice within professions;
- respects the integrity and contribution of each profession; and
- increases professional satisfaction.

(Barr and Waterton, 1996)

The CAIPE survey also found a dearth of published research on interdisciplinary education and its impact on the effectiveness of the health care team. The results of the nationwide survey call for closer studies in many aspects, but especially in the means to stimulate interactive learning, types of assessment and methods of evaluation.

These findings are supported by a recent, systematic review of interprofessional education which concluded that there is no current research that gives conclusive evidence of the effectiveness of interprofessional education (Zwarenstein et al,1999). A majority of the literature concentrates on the effectiveness of interdisciplinary education in developing interdisciplinary teams for health service delivery that meets the health needs of the community. Yet from the surveys above and as mentioned earlier, there appears to be no conclusive evidence to prove that interdisciplinary education leads to collaborative health care. At the same time, it has not been proved to be ineffective (Zwarenstein et al,1999).

3. THE CONCEPTUAL FRAMEWORK FOR THIS RESEARCH STUDY.

This study does not and cannot seek to prove the effectiveness of interdisciplinary education for effective health care delivery. It attempts to explore the nature of learning and changes undergone by students in the process of interdisciplinary education and to make sense of their experiences of this form of learning.

For this purpose, I have drawn on a number of theoretical frameworks to assist in analysing the types of knowledge gained within particular learning discourses, the different roles and (power) relationships within the various discourses and the barriers to interdisciplinary education.

I have indicated in Chapter 1 and at the beginning of this chapter, that the PHC approach advocates not only the transformation of the health services, but also the socio-economic conditions (thus social change) necessary to attain conditions that promote healthy individuals and communities in all sectors of society. This means producing health workers with different roles, identities and attitudes towards health care than in the past. In order to produce a new type of health worker in practice, changes need to be made in education. To effect this change, a new pedagogic discourse needs to be introduced at the undergraduate level of training, continued in postgraduate training and implemented in orientation courses for existing professionals as well as establishing continuing multiprofessional education programmes. (Bajaj,1994; WHO,1988)

3.1 Barriers to implementing interdisciplinary education.

Change often produces resistance and a number of barriers to the changes. Goble (1994) suggests that in the case of implementing interdisciplinary education, there are a number of identified and recognised barriers which relate to attitudinal, organisational and financial issues. She argues that there are also hidden or unrecognised barriers which are more dangerous, as they are not as accessible and cannot be dealt with. She suggests that these need to be identified and recognised in order to promote successful interdisciplinary education.

In the examples she gives, Goble raises a concern that interdisciplinary education is a difficult concept to promote, implement and maintain, particularly as the existing educational system has not yet rewarded implementation or achievement in this field. This can be further aggravated by social, economic and political pressures which may prevent financial support of interdisciplinary education programmes. In addition some may even question the importance of the programmes, especially in the face of the lack of hard evidence of the benefits of interdisciplinary education to improved patient care or health statistics of communities (Goble, 1994:175-79).

Many who have experience in designing, implementing and evaluating interdisciplinary education have identified further organisational, attitudinal and financial barriers to interdisciplinary education (Parsell & Bligh, 1998b; Leathard, 1994).

Most barriers have centred around internal organisational issues - timetables; the difference in time and objectives of individual courses; the locations of departments, schools and sites of practical training which make it difficult for students from different professions to get together, a lack of resources and genuine support and commitment from the highest level of academic decision makers.

External barriers are those such as official government policy and legislation of professional boards and the present nature of health service delivery. Attitudes of health workers and community members can also inhibit interdisciplinary programmes. Financial issues are often a major barrier and they may be internal or external (Parsell and Bligh, 1998; Goble, 1994; WHO,1988; Dennill et al,1995).

Rawson (1994:38) gives more detail regarding a number of major reasons consistently identified as inhibiting interprofessional working. Foremost among these are:

- poor communication and language differences;
- conflicting power relationships;
- ideological differences; and
- role confusions.

Many of these are tied in with the concepts of discourse and role, which are important to understand within the changing environment of health care delivery and education.

Rawson (1994:39) suggests that "interprofessionalism challenges professionals to rethink their occupational purpose and to discover the most effective means of practice." This, in turn, causes attention to focus on the nature of interprofessional education. Goble (cited in Rawson, 1994:39) accurately reflects that this leads into "the inevitable triangle of knowledge, attitudes and professional skills."

3.2 Discourse and role.

3.2.1 Discourse.

I have found James Gee's definition of discourse useful, not only in understanding the concept, but also in applying it to the different traditional discourses of adult education. It is particularly useful in making sense of the learner, teacher and professional roles in each educational discourse that is associated with different health care professions. Although Gee is writing from the perspective of a linguist, his definition of discourse can be applied to any discipline and is as follows:

> "A Discourse is a socially accepted association among ways of using language, of thinking, feeling, valuing, and acting that can be used to identify oneself as a member of a socially meaningful group or 'social network', or to signal (that one is playing) a socially meaningful 'role'."
>
> (Gee,1990:143)

Discourses therefore are a **set of rules** which determine

- *Language use*: what you say and how you say it.
  A health worker will talk differently about health or ill health within health institutions with colleagues as opposed to when they are discussing similar topics with family or friends.
- *Behaviour*: what you do and what you do not do.
  There are very different ways of relating to colleagues of your own discipline, and to those of different disciplines, to authorities, friends, families and relatives.
- *Ways of thinking*, such as logically, critically, broadly, narrowly.
- *Ways of feeling*, for example being accustomed to express feelings openly, being stoical and hiding feelings.
- *Values:* what constitutes 'good performance'.
  For example, the way a health worker relates to a client or community is influenced by the values of the dominant operating discourse. A scientific, technological discourse values efficiency and the role of 'professional

expertise'. A caring, humanist discourse values acceptance and the role of giving support. An academic, liberal discourse values rationality, individual freedom and choice - and an activist, radical discourse values giving the client the freedom to express their opinion and empowering the client or community to take charge of their lives and their health.[5]

According to Gee, the rules are usually hidden and not explicitly 'taught'. You 'acquire' a discourse by participating in and becoming part of it. Acquiring a discourse is similar to acquiring a first language - that is, it generally happens subconsciously by exposure in a natural setting. It is acquired because it is something that needs to be learnt in order to function in that setting. While students who enter health professional training come from varied backgrounds, with varied primary or 'home' discourses - as well as secondary discourses from school, church groups, sports and other similar groupings - all acquire a common discourse of their profession. They do this subconsciously, without being taught how to behave, talk, feel, think and value as, for example, doctor, nurse, occupational therapist, physiotherapist or dietician. Some are not even consciously aware of the different discourses until they are brought together into interdisciplinary groups.

3.2.2. Role

A discourse demands that you construct or act particular kinds of *roles* . A *role* is defined by Gee as the manner in which you engage in a particular pattern of behaviour, interaction, feeling, thinking, valuing:

> "a combination of saying the right sort of things in the right sort of way, while engaging in the right sort of actions and interactions, and appearing to think and feel the right way and have the right sorts of values."
>
> (Gee,1990:xv)

5 See under 'Shifting discourses in health professional training' below for details on the different discourse mentioned.

'Role' is an important concept to clarify in the context of this study. According to Hargreaves (1972) and Ruddock (1969) a 'role' is a set of expectations of what behaviour should go with a certain position in an organisation or society at a certain time. We all occupy many positions at the same time, or one after the other (such as sister, student, part-time worker and hockey player). Within the interdisciplinary team, each member may at some point play the role of their discipline or profession, but at other times the role of a generic health worker or team member - especially if the team includes family and community members who have equal, but different knowledge and skills to collectively solve a problem. This may be an area where role confusion may be experienced as to how to behave, to feel, to think and what is of value at that particular time. There may be confusion between the professional or 'expert' role and that of an 'equal' team participant or both at different moments.

Since a role is constructed through a discourse, it is learnt within the discourse and uses the particular language of the discourse at that particular time. Once learnt, roles are largely unconscious, for example, students and teachers do not need to think of what is expected of them in the normal course of a lesson; when they 'play' their learner or educator role, they do not feel as if they are putting on an act (Ruddock,1969).

If the style of teaching changes, however, the students and teachers may have to learn new roles. This would apply in interdisciplinary education where the teaching consists mainly of small group teaching in community settings where the teacher is the facilitator and the students are active and critical participants in the learning process. This is especially true if both students and teachers are accustomed to mainly large group lectures in institutional settings or even small groups of single discipline teaching in the ward setting where the teacher is the 'expert' and students merely the (passive) recipients of the experts' knowledge.

If roles are not clarified and are not recognised as institutional or group 'norms', this can cause role conflict, where expectations change and conflict with each other.

Relevant to this study is the concept of 'role distance' where we act out a role, but in a detached way. If curriculum changes and changing health worker roles are not carefully and sensitively negotiated, role distance may occur through resistance to accepting a new role. Ruddock (1969) says:

> "When a person is not fully absorbed into his role behaviour and allows it to be seen that is so, we speak of role distance."

3.3 Shifting discourses in health professional education.

> "Educational practices have built into them their assumptions about social change, power and personal relationships....they are themselves practices with implicit political commitments."
>
> (Millar,1989:11)

It will be shown how this is true of health professional education, using an adult education model.

The field of adult education theory is vast, with many theoretical complexities. I do not aim to cover this topic in detail, but to use elements of this field to help explain the changes - from traditional training of health worker education to a PHC and interdisciplinary approach to education.

An important starting point is that it is generally accepted that the most distinguishing feature of adult education (as opposed to the education of children) is that adult learning is based on the rich life experiences of adults. In carrying out an international case study evaluation, Usher & Johnstone state in 1996 that in vocational education contexts, there is a longstanding tradition of learning from experience (Usher & Johnston, 1996). Traditional pedagogic teaching in health professional training, however, often ignored any form of prior knowledge and experience and saw learners as empty vessels that needed filling with numerous facts and figures (Werner,1982).

At this point it is appropriate to look at the various educational discourses influencing health professional education and the changes that need to be made.

I have modified a framework used by Millar (1989) in analysing nursing education, to analyse health education in general and the differences in pedagogic practice between the various health professionals.

Millar's framework rests on the assumption that "a particular educational programme lives without too much discomfort within one of four major discourses - technological[6], humanist, liberal and radical." (Millar,1989:11)

A *technological discourse* has been the most dominant discourse in the training of all health professionals. The accumulation of facts and production of skills for 'assembly line' type of work counts as learning. (Examples of this type of skill are taking blood pressures, giving an injections or fitting an assistive device for a limb.)

The key role of the 'teacher' or educator is to decide on content, set easily measurable learning objectives and assess learning objectives according to the correct responses and acquisition of skills or 'learnt behaviour'.

The assumptions made about the learners are that they are "empty vessels". This education discourse does not usually take into account the way knowledge is constructed or acquired or individual differences between learners; there is minimal concern for feelings and thoughts or meaning; learners are mainly encouraged to use rote learning which is rewarded with positive feedback if answers or behaviour are exactly as taught. Questioning the information or the teacher is not encouraged.

6 A 'technological' discourse may also be termed 'behaviourist'.

Assessment (and delivery) are relatively simple. Clear measurable objectives are set and the attainment of these are measured. This teaching discourse has the "ability to appear to deliver the goods" and has a "powerful capacity for social control." (Millar,1989:11) It is a dominant teaching discourse in industry, the military and traditionally in health. This pedagogic discourse is suitable for certain skills and knowledge within the health professional training, where there can be no argument over established facts and skills, for example, the anatomy of the body and performing a particular operation or doing cardio-pulmonary resuscitation if someone's heart has stopped or they have stopped breathing.

I would argue, however, that this should not be the dominant educational discourse in health professional training - even facts need to be examined critically with changing evidence and environments. This is particularly relevant given the significant changes and demands of health care training currently.

The *humanist discourse* historically arose as a reaction to the technological discourse. The humanist approach is closely linked with psychological development and interpersonal relationships; the main aim is personal growth.

The key role of the 'teacher' is that of a facilitator who ensures that the learners follow a path of self discovery. The facilitator does not try to influence the content and is thus a facilitator of process rather than content.

The assumptions are that learners are motivated by curiosity and undergo a path of discovery to develop a critical understanding of themselves and others; that students are self directed learners (Knowles,1970).

In the humanist discourse, assessment measures development of the individuals growth and insight regarding themselves and others over time. In this approach, learning is not easily measured as it has to do with thoughts and feelings inside the individual learner. It is essential to include self assessment. This educational discourse is linked to health and wholeness and has a lot in common with healing (Millar,1989). It is particularly important in therapeutic contexts such as support

groups and counselling. The humanists seek to 'liberate' the learners from the absolute control of the educator deciding what they learn as in a technological discourse. Similar to a technological discourse, however, it does not consider societal factors in the learning situation.

The *liberal discourse* is largely about accessing established, insulated forms of knowledge related to a particular subject, with the main purpose of producing an 'educated' person "with a capacity for informed opinions and autonomous judgement." (Millar,1989:13) Accumulation of knowledge is most valued and experience has a very small part to play is this educational discourse (Usher and Johnston,1996). The key role of the teacher is to engage the learner in a dialectic conversation (Saddington,1985).

The assumptions of the learner are that they engage in the educational experience voluntarily and will progress from increasing interest in a particular subject, to increase knowledge and understanding of the specific subject, and finally to 'master' the ability to "use the skills necessary for critical judgement and enter into full dialogue." (Saddington,1985:43)

Assessment is the attainment of set academic standards. Traditionally, the purpose of the liberal discourse was to create an elite, 'educated' professional and managerial class. The intention, whether overt or covert, was to block membership and access to this group as far as possible. Recent changes in higher education are causing a tension between the growing influence of the vocational/training tradition in higher education courses and the traditional liberal form of academic education (Usher and Johnston,1996). The liberal discourse has generally not been the dominant discourse within health professional education as it has for a long time been influenced by vocational training within the academic field.

The *radical discourse* is overtly political and is traditionally the most alien within mainstream health worker education. Although it is similar to the humanist discourse in that it is about self awareness and relationships between individuals, the aim is different. The radical discourse is not for personal growth alone, but for critical reflection and action in order to effect social transformation. Thought and action are dialectically related in practice. The purpose of education is for the individual to learn about themselves in relation to society. Relationships in society are the content of learning and the ultimate goal is for the individual, through raised consciousness, to act on the world to change it (Freire, 1972; Millar, 1989).

The key role of the teacher is in relation to both content and process. The 'teacher' is a facilitator, but also a learner and vice versa.

The assumptions made about the learner are that they have a vast amount of experience; if given the chance to reflect critically on their experience and knowledge and their position in society, they will come to understand the world in such a way that they can act on the world to change it.

Assessment focuses on processes of participation, the ability to work in a group in different roles, critical reflection by learners of their own role within society and problem solving ability. This type of assessment is not easy and self and peer assessment and emphasis on continuous, formative assessment are important aspects of assessment. This form of education "takes most seriously problems of organisation, of accountability, of historical understanding. It is essentially about the organisation and reorganisation of society." (Millar,1989:13)

To summarise the different discourses simplistically, the technologists or behaviourists are mostly concerned with actions of the body (skills), the liberals are more concerned with the mind in terms of accumulation of facts and

knowledge, the humanists are concerned mostly with how the mind works, and minimally concerned with the body and action. All three discourses appear to separate mind and body. In the radical approach, mind and body, thought and action are seen as inseparable, without a distinction between the two - and they go further to include societal factors in learning.

The Table below gives perceived ideas - gained through informal discussions with lecturers - about the percentage of influence of each discourse in the training of each separate health discipline. This needs further research into each curriculum to verify the perceptions.

In the present curricula, medical training is overwhelmingly influenced by a technological discourse. In dietetics and physiotherapy a technological discourse is predominant, whereas it is much less present in occupational therapy and nursing, where the humanist discourse is fairly strong.

TABLE 3

Perceived ideas of the percentage of influence each discourse has within each health professionals' training.

DISCOURSE	TECHNOLOGICAL	HUMANIST	LIBERAL	RADICAL
MEDICAL	80%	5%	15%	0
NURSING	50%	35%	5%	5%
OCCUPATIONAL THERAPY	50%	35%	5%	5%
PHYSIOTHERAPY	70%	20%	5%	5%
DIETETICS	70%	25%	5%	0

The technological discourse has been dominant in the training of health workers in the past (with some changes more recently). There are some elements of the liberal and humanist discourse included in all disciplines. The only disciplines that are influenced in anyway by the radical discourse, are those dealing with disability namely OT and PT and nursing within their increasing role as health promoters.

There are two major 'models of disability', - the individual model vs the social model. The individual model sees disability within a medical model, and education regarding disability would be dominated by a technological discourse. The social model sees 'disability' as being socially created in the way that society is organised. Generally people with disabilities are discriminated against and relegated an inferior social position. It is argued that this is due to the world being designed and arranged for able-bodied lifestyles (Finkelstein et al,1993). OT and PT training have had to include this debate in their training since they work predominantly with people with disabilities, especially OTs. This has brought in elements of the radical discourse into their training.

Within the PHC approach, the political intention is to transform the social and economic factors affecting the health of the population, largely through intersectoral collaboration with interdisciplinary health teams. This goes further than transforming the health care system to achieve equity in health care. But also requires the involvement of the community working with health teams If this goal is to be achieved, I would argue that the radical discourse will need to assert itself as the most prominent and as hegemonic in relation to the technological, humanist and liberal discourse in health worker education.

Having explored the discourses in health worker education within an adult education framework, I feel it is necessary to go back briefly to the education framework described by Bajaj (1994) and the dominant literature regarding the underlying principles of interdisciplinary education and relate these to the pedagogic discourses discussed above.

4. EDUCATIONAL PRINCIPLES UNDERLYING INTERDISCIPLINARY EDUCATION.

The research literature suggests that the underlying educational principles of interdisciplinary education are based on teaching in a community setting. This would include community-based education (CBE) using the method of problem-based learning (PBL), embedded in an outcome based curriculum (WHO,1988; Bajaj,1994 Savin-Baden,1997; Parsell and Bligh,1998; Barr,1998; Harden et al,1999). It will be argued here that these principles are compatible with increasing the influence of the radical and humanist discourses within health professional education.

4.1 Community-based education (CBE).

For multidisciplinary education to be effective, it has to relate to the pertinent health problems of the community and should therefore be mostly community–based, where students can be directly exposed to problems affecting various communities.

Working in communities, especially in poor communities, means that factors affecting the health of people cannot be ignored. Social transformation would have to form the basis of attaining healthy individuals and communities. In this way CBE creates the opportunity for the dominant discourse in health professional education to become the the radical discourse. In a country where the majority of the population live in poverty, an understanding of social transformation and community development and the health professional's role in these processes, needs to become a primary goal of health professional education.

4.2 Problem-based learning (PBL).

Health education needs to apply appropriate principles and methods to develop health workers who are competent to solve priority health problems and are able to work in a team[7]. It has been argued that PBL promotes co-operation as opposed to competition between participants.

The positive link between PBL and interdisciplinary education was suggested in the well-established Linkoping model of interdisciplinary education (Areskog,1994). PBL is also well suited to the radical and humanist discourse as it is believed to promote critical thinking, reflection and self-directed learning. These skills are as necessary in learning about the science of health and illness as they are in learning about communities. PBL has been successfully applied to teaching in clinical situations in the place of the traditional didactic, technological approach.

CBE and PBL do not exclude a technological or liberal education discourse playing their role, but foreground the radical and humanist discourse and encourage an integrated approach to learning about health .

More recently, with the development of a National Qualifications Framework in South Africa which is influencing changes in higher education in this country, an outcome-based or competency model for interdisciplinary education is emerging - which requires a brief introduction.

7 The concept of teamwork implies a co-ordinated delivery of health care in the form of preventive, promotive, curative and rehabilitative services. The assumption is that a team as a whole has an impact greater than the sum of the contributions of its members (WHO,1988).

4.3 Outcome-based education (OBE).

With the changing role of health workers, new knowledge, skills and qualities of health professionals need to be identified. Since OBE requires that competences are clearly identified, Harden et al suggest that with these changing roles, OBE "offers a powerful and appealing way of reforming and managing medical education" (Harden et al,1999:564).

OBE requires learning outcomes to be strictly specified. On the surface, OBE appears to be exclusively within the realm of a technological pedagogic discourse. Harden et al (1999) however, propose a 'three-circle' model, moving from "competency to meta-competency" for the training of doctors. This model seems to lend itself to inco can be applied to any other health professional training. It encourages "a holistic and integrated approach to medical education and helps to avoid the tension between vocational and academic perspectives." (Harden et al,1999:546) This model seems to lend itself to incorporate liberal, humanist and radical discourses and therefore allows it to move beyond a purely technological discourse.

Very briefly and simplistically the 'three-circle' model consists of an inner circle which defines "what the doctor (health worker)[8] should be able to do." These are the technical skills taught and assessed mostly within a technological discourse. The next circle defines the approach to doing the task, and the last circle defines the development of the individual in their role as a professional, both largely appearing to be within a humanist discourse.

I would argue that within the PHC context, the outer circle, would need to define not only the individual within the role of a professional, but also in terms of the professional's role in society. The process should begin with the conditions in society, which would determine the framework for a professional's role (outer circle). This would in turn define how things should be done (middle circle) and lastly the technical skills needed would be addressed (inner circle). In this

8 My addition.

manner, it would be more likely to effect a shift in health professional training in the direction of the radical and humanist discourse.

Specific to OBE in interdisciplinary education, Barr (1998), distinguishes three different types of competences: *common, complementary* and *collaborative.*

- *Common* refers to competences common to all professions (communication skills, interpersonal relationships ethics and human rights).
- *Complementary* refers to competences which distinguish one profession and complement those which distinguish other professions (a doctor may operate, the nurse implements general post-operative care, the physiotherapist may be involved in specialised post-operative physiotherapy).
- *Collaborative competences* are those that enskill and enable all the professions to collaborate with each other, with other sectors and organisations , clients, families and communities and within their own ranks (the ability to communicate in any situation, to understand group dynamics and work in a team). (Barr, 1998:184)

Barr suggests that further work needs to be done in distinguishing more clearly the different types of competences. He proposes that these can be exercises students carry out in an attempt to develop a deeper understand their own and each others' professions, what distinguishes a common competency from a complementary competency, and exactly what the collaborative competences are.

Interdisciplinary education requires that there be a shift in emphasis to competences related for collaboration and the skills needed for it; it is not merely a matter of students from different disciplines learning together.

> "Interprofessionalism necessitates the deconstruction of professional knowledge and identity and its recasting in new forms of knowledge and action."
>
> (Bines,1992, cited in Barr, 1998:184)

5. CONCLUSION.

In this chapter I have drawn aspects from the literature that I have felt are relevant to setting the theoretical framework for this research. I have discussed interdisciplinary education in relation to previous research, barriers to interdisciplinary education, role and discourse theory, the shifting discourses in health professional education and educational principles that have been identified as underlying interdisciplinary education, such as CBE, PBL and OBE.

Since interdisciplinary education originated mainly from the development of the PHC approach, it was necessary to explore the connection between PHC and interdisciplinary education. I argued that the PHC approach and interdisciplinary education require a major shift in health professional education and practice. In order to understand these shifts, I thought it was important to understand discourse and role theory, especially in relation to learner and educator roles and changing professional practitioner roles, identities and (power) relationships.

It is common to find barriers to change and I felt it was important to understand the barriers related particularly to interdisciplinary education and practice.

Lastly, I analysed the curent pedagogic discourses predominant in health professional education and proposed discursive shifts in education that would need to take place in order to prepare health professionals to practice in interdisciplinary teams within a PHC model of practice. I also argued that with shifting the dominant education discourse, this would create new learner and educator roles, new professional identities and practices and new power relationships.

It is against this background that I will analyse and interpret the findings of my research, and will return to reconsider this literature and these arguments.

Chapter Three

RESEARCH METHODOLOGY

1. INTRODUCTION.

The main aim of the research was to evaluate a pilot community-based, primary health care, interdisciplinary teaching programme for health sciences students.

Choosing a research methodology entails consideration of the subject being researched, the question(s) asked and the world view of the researcher. The choices the researcher makes determines the process and appropriate methodology (De Vos A.S, 1998).

This study is located within the discipline of social research. I have chosen to use a qualitative approach as I understand this to be effective in obtaining in-depth information regarding what people think and feel; and to understand the insider's view. In this instance the qualitative approach is being used to access an understanding of the students' and staffs' experiences of a new education programme in a particular context.

I conducted this study using one form of social enquiry, the case study approach, as the methodology for the research.

This chapter discusses research methodology in the context of educational research (in higher education) and educational evaluation. Reasons for the chosen approach, the advantages and disadvantages of the design, methods of data collection, data analysis and the important aspects of validity, reliability and ethics are then discussed.

1.1 Educational research - research paradigms in (higher) education.

As in research in the social sciences, more broadly, educational research has two basic approaches to choose from, namely, quantitative or qualitative. A combination of the two approaches is also possible.

The quantitative or traditional approach draws on the natural science or 'experimental' approach. Here the researcher sets up an experiment, intervenes in a process and manipulates a number of variables to test an hypothesis. The qualitative or 'ethnographic' or 'naturalist' approach draws on research in social anthropology. The researcher observes human behaviour or events in a natural or 'real' situation. The aim of this approach is to describe a setting as holistically as possible within its context, in order to gain a better understanding of the people or events in that setting (Zuber-Skerritt O,1992, Mouton J,1996, Silverman D,1993).

1.2 Educational evaluation.

A number of methods have been used in educational evaluation. Over time, evaluators of educational programmes or curricula have come from a number of disciplines, starting initially with educational psychologists followed by educational technologists and later curriculum developers. More recently, sociologists, anthropologists, psychiatrists, historians and economists have all brought their specific objectives and approaches to educational evaluation (Hamilton D, 1976:11-12).

As with research, however, two main paradigms are used in educational evaluation. There is the traditional, experimental or objective approach and the alternative anthropological or subjective approach. The importance of choosing a particular approach or method depends on the objectives of the evaluation. It is also essential to recognise the advantages and disadvantages of the method used (Saddington,1985:68).

I have chosen the form of educational evaluation I feel best suits the qualitative approach to research. This is known as 'illuminative' evaluation and has also been described as 'portrayal', 'humanistic' or 'descriptive' (Stenhouse,1983 cited in Zuber-Skerrit, 1992:135). It emphasises gaining an holistic understanding of the educational practice and portraying and interpreting the programme in it's entirety.

> "Illuminative evaluation seeks to open out an educational situation to intelligent criticism and appraisal."
>
> (Hamilton D,1976:39).

Illuminative evaluation does not try to predict outcomes. This approach appears congruous with the case study approach described below.

2. CASE STUDY METHODOLOGY IN EDUCATIONAL RESEARCH.

2.1 Reasons/rationale for choosing this methodology.

According to Zuber-Skerritt (1992), case study methodology has made a considerable contribution to educational knowledge over the last three decades. Adelman et al (cited in Zuber-Skerritt, 1992:131), define case study research as 'the study of an instance in action' in the context that the 'action' takes place.

Case study research can be based on single or multiple case studies, which can be exploratory, descriptive or explanatory (Yin, 1993). This case study can best be described as a single descriptive case study, which gives "a complete description of a phenomenon within its context and covers the scope and depth of the case" (Yin, 1993:5).

A basic strategy of this design is to describe in detail a single 'unit' in a specific context, during a specific period. It is assumed that a thorough description of a unit would enable a researcher to "understand the social processes and meanings implicit in some undertaking in a restricted context" (Millar,1983:115). The case study approach is applied to a "real" situation and not one that is created for the purpose of research (Millar, 1983).

2.2 Advantages of the case study method.

Being based in reality is one of the strengths of the case study, as it allows the researcher and research subjects to reflect on the findings and interpretation and to use them, if appropriate, for action, for example, to improve a programme for funding, to influence policy or decision making (Zuber-Skeritt, 1992). Another possible advantage suggested by Adelman et al, 1983 (cited in Zuber-Skerritt,1992) is that case studies subject themselves to re-interpretation; inasmuch as the data can be stored and used by researchers or others for their own purposes which may be different to the original purpose. The case study approach can also accommodate all methods of data collection, allowing the researcher to make appropriate use of the widest range of techniques for gathering information, using both quantitative and qualitative methods, if necessary.

I felt the case study approach was appropriate for my purposes as I was researching a real situation. It gave me the opportunity to make use of various methods of data collection and, although I understand that this is an academic report, I would hope that it will be used by others for their purposes, for example, to learn from and improve the WIDP.

2.3 Principles of applying the case study method.

Although there are no enforced methods or procedures to follow, there are recognised methodological principles and guidelines when applying the case study approach. Millar describes three principles of procedure "that serve as guidelines and standards simultaneously": "accurate portrayal", "progressive focusing", and "holism." (Millar, 1983:120-121)

- "***Accurate portrayal***" means presenting all data accurately and honestly. The researcher should pay special attention to data that could be more easily distorted, such as interview transcripts. It is extremely important that the researcher captures the range of perceptions of what the case is about from all key role players. I attempted to apply this principle by using and referencing all direct quotes, referencing all documents and literature and distinguishing between participants views and my own interpretations.
- "***Progressive focusing***" refers to the importance of focusing on key issues and questions that emerge and that help illuminate the main dynamics of the case. Through the literature review and the analysis and discussion of the research data, I strived to fulfil this principle.
- "***Holism***" means aiming to understand all aspects of the case, and not only a part or parts of it. It means studying not only the case, but also the broader context within which it is located. In an educational context, this principle of procedure means exposing pervasive, yet invisible issues such as the hidden curriculum. I believe that I have followed this principle in contextualising interdisciplinary education within a broader health and education background and I have tried to uncover hidden aspects of the curriculum through analysing and interpreting the research findings.

In addition to applying the above three principles of procedure, Millar further describes a framework of applying three "master questions" suggested by Ralph Ruddock's monograph on evaluation (Ruddock, 1981 cited in Millar, 1983:119-120).

The questions are:

- What is the case about?
- How does the case work?
- Why does the case work in this way?

- ***What is the case about?***

  This is a description of the case using data of various kinds and capturing the differing views and perceptions of the various role players.

- ***How does the case work?***

  This question explores the relationships and social processes involved, accounts for the range of meanings elicited and the core social and educational processes in operation.

- ***Why does the case work in this way?***

  The last question analyses the case within its social, traditional and cultural context. In this specific study, this is extremely relevant in relation to the various professional cultures or discourses and the changing environment in health care provision and education.

2.4 Problems associated with the approach.

This approach allows for flexibility and has the capacity to elicit new aspects of reality, but it also has problems and limitations. These need to be acknowledged and minimised where possible.

The most common criticisms and objections raised relate to issues of validity, ethics, reliability, and generalisation.

2.4.1 *Validity.*

Research, within the epistemological dimension is the pursuit of valid or "truthful" knowledge. There is, however, a range of validity in the search for truth. There is truth as 'plausibility', 'goodness of fit' or 'as better or worse', dependent on the range of complexity of scientific knowledge (Mouton, 1996:30).

In relation to the case study approach, validity is difficult to ensure. Case study research is a highly subjective form of inquiry. Two researchers studying the same case are likely to reflect different opinions of the reality of the situation and each interpretation is not necessarily wrong or right. The only way to minimise the subjectivity is for the researcher to expose and problematise his/her perspective as part of the presentation of the study. The researcher must present the findings, procedures, basic data and frame of reference for "public scrutiny and attack."

> "The case study does not claim the status of 'truth' or 'last word'; it simply invites confrontation by a better analysis."
>
> (Millar,1983:122.)

2.4.2 *Research ethics.*

Related to the problem of "objectivity" is "false coherence". Ralph Ruddock describes the risk of false coherence as follows:

> "In evaluation, as in other forms of enquiry, there is a danger of imposing a conceptual order upon an empirical chaos."
>
> (Cited in Millar, 1983:122).

This is highly applicable to a case study of a 'real' event or programme, as the situation cannot be predicted or controlled as is possible with a pre-determined empirical experiment.

Ruddock continues:

> "If our evidence forces us to conclude that the field we are investigating is a confusion of conflicts and contradictions, how are we to transcend this confusion? Are we writing in bad faith if we attempt to give a coherent account of a process which is not coherent?"
>
> (Cited in Millar, 1983:122).

A similar problem could result from the researcher presenting a different logic of coherence to that expressed by the participants. This latter problem is more an issue of research ethics. The researcher should be accountable to the interviewees and be constantly vigilant in preventing distortion of evidence and allowing contradictions to be expressed. Practically, this risk is minimised if the researcher gives feedback to the participants as s/he develops interpretations of the data. S/he should also allow participants to raise opposing viewpoints that must be incorporated in the report.

2.4.3 *Reliability.*

Data is regarded as reliable if the same method used to collect the data initially, produces the same results if it is used by the same or different researchers at different times. The case study will seldom produce the same results, however, as each case has its own dynamics, especially at different periods of time, and each researcher has his/her own interpretation. The research methods could be replicated, however, if clear and explicit research procedures are given.

2.4.4 *Generalisation.*

Generalisation can be seen as a problem within reliability and validity because case studies are always "partial accounts involving selection at every stage." (Walker,1980 cited in Saddington,1985:76). Results from case study research cannot be generalised to a broader community or to any (other) case, but could be applied to a similar situation. I have used my role as participant-observer, as well as the formal course evaluation forms completed by students, as a process of triangulation, in order to increase the reliability of the data collected.

Despite all these problems, case study research can yield a richness in description and illuminate new realities if used in the appropriate manner.

3. DATA COLLECTION.

3.1 Introduction.

I used three primary methods for collecting data:

- interviews;
- questionnaires; and
- participant observation.

While these techniques incorporated both quantitative and qualitative aspects, the main approach to data collection was qualitative.

In order to suit the 'block' system of teaching in the FHS, the WIDP is structured in such a way that five different interdisciplinary groups of students participate in the WIDP in one year. In 1997, I focused on the fourth cycle of students for collecting my core data.

I used four semi-structured focus group interviews with students and individual interviews with all lecturers involved in the planning and implementing team (which produced the "core" data of the research) and participant observation to collect qualitative data. In this manner, I was able to include the views of all essential stakeholders which included:

- four focus group interviews with different selections of students participating in the forth cycle of the WIDP;
- all the lecturers involved in planning and implementing the interdisciplinary programme, which included the Curriculum Development Officer; and
- the researchers views and interpretations

Quantitative information was gathered through the completed course evaluation forms, which were developed by the planning team, of which I was a part. They consisted mainly of closed–ended questions and included only a few short, open-ended questions. I used them to corroborate or refute the qualitative data derived from the interviews.

I used my role as participant observer in a similar manner to the questionnaires - i.e. largely to corroborate or refute the information from the interviews. At times this helped to add extra information to that gained from the interviews and the questionnaires. It added different insights, helped to clarify some issues and fill in some gaps.

Minutes of meetings for programme planning and review and the core curriculum document were used to construct the case.

3.2 Interviews.

I chose to limit the focus group interview to one of the five student groups participating in the programme, in 1997, for a number of reasons.

The first reason was a practical one. The topic for my minor dissertation had been accepted and registered in the Faculty of Education and I naively thought, that I could conduct the research and complete the dissertation by the end of that year (1997). [1]

In addition, the inclusion of the information gained from my role as participant observer and all the evaluation forms for the five blocks in 1997, as part of the data, supplemented the range of data. Although the individuals in each group were always different, the demography of each student group was very similar.

The third reason for choosing only one group was a methodological one and related to my role as a participant observer. This will be discussed further in the relevant section below.

[1] This rationale for limiting the focus group interview to one group of students was supported by my supervisors.

As already mentioned, both the focus group interviews and individual interviews described below are compatible with a qualitative approach to the research. I have previously been trained and gained experience in both individual and focus group "free attitude" interviewing, as well as semi-structured interviewing techniques using an interview guide schedule. I chose a semi-structured interview approach as I knew that both students and lecturers who were interviewed would have limited time available and that the semi-structured interview is more directive.

As the main instrument by which to acquire the qualitative data, the interviewer must be prepared and skilled. A non-judgmental attitude, skills in listening and facilitating, and an awareness of body language are essential in qualitative research.

In addition, it was important for me to clearly explain to the students my role, the purpose of the research and the reason for the interviews (Oskowitz and Meulenberg-Buskens, 1997). As I co-ordinate the PHC course for the MED students, they had to trust that whatever they said in the focus groups would not affect their marks in the rest of the course. (This was not a concern in relation to this aspect of the course, as it is not assessed for marks).

In terms of the lecturers, I had to change my role from being a member of the planning team to being the interviewer and researcher. There were no significant issues in these relationships which could affect these interviews as we were equal participants in the process, being relatively homogenous in terms of our class, age, race and gender profile (i.e. White, middle-aged, middle class, women all with postgraduate qualifications).

The interviews were recorded in shorthand and written up in detail immediately afterwards. I decided not to use a tape recorder as I was not confident with this technology and felt it might inhibit both me and the students..

3.2.1 *Semi-structured focus group interviews with students.*

Ideally I would have run a separate focus group interview for each discipline. This was not always possible, however, given the time available and the size of each group. I interviewed the MED students in two groups of four each, due to their different commitments and available time. I would have preferred to interview the eight together, but could not find a suitable time for both groups. It did make the size of the focus groups equal, however.

I felt that the students would feel more comfortable in a group than if interviewed separately. I hoped this would encourage an exchange of ideas, with less emphasis on my role as the facilitator. I also felt that individual interviews would be too selective and restrictive - and that there would not have been enough time to do them individually, be they semi-structured or structured. A focus group interview gave me the opportunity to ask for clarification and probe where necessary. I wanted the students to be able to talk freely of their experiences and perceptions, but I also prepared an interview guide schedule of the following open-ended questions:

(a) What and how much have you learnt about the participating disciplines?

(b) What helped you learn and what hindered the learning process?

(c) Did this interdisciplinary learning experience in any way shape or change your understanding of your own discipline and the concept of your role within the health "team"?

(d) Did it shape or change your thinking about the part of the course you are currently engaged in?

(e) How would you structure the design of the course to obtain better insight into how the different disciplines contribute to the Primary Health Care team?

(f) Do you have any other comments or insights?

3.2.2 *Semi-structured individual interviews with lecturers/facilitators.*

Individual interviews were held with the lecturers from each discipline to identify their expectations of student learning and to compare these with what the students felt they had learnt.

I chose individual interviews with the lecturers as opposed to a focus group interview for practical as well as methodological reasons. As part of the planning group, I had been in many discussion groups with all the lecturers, and felt that I would gain more information in one-to-one in-depth interviews. Practically, the lecturers were finding it difficult enough to find common times for the planning meetings, and preferred interview times that suited each of them individually. Each interview took approximately 45 minutes.

Although the interviews were open to any contributions, I had prepared an interview guide schedule covering three areas of questioning:

(a) What were your expectations of what the students would learn?

(b) What do you feel was achieved?

(c) Any other comments or observations?

3.3 Questionnaires.

The questionnaire is a quick method for obtaining data, and can be completed in the respondents' own time.

Two questoinnaires were used to collect data in this study:

- a pre-course questionnaire (see Appendix C.)
- a course evaluation form (see Appendix D.)

One difficulty with questionnaires is that questions can be misunderstood, resulting in answers which may be off the point. This can be exacerbated if they are self-administered and are not dealt with face-to-face. In this case, the problem was minimised by the Site Facilitator at the NOAH being available to explain the questionnaire and to clarify any misunderstandings.

I did not pilot the pre-course questionnaire as it was an extremely short, self-explanatory questionnaire, and testing it seemed unnecessary.

3.3.1 *Pre-course questionnaires for students.*

Each student from the group that was to be interviewed (the fourth group of 1997) was asked to complete a standard questionnaire before the course started. I was responsible for explaining the research project to the students and negotiating with them their willingness to participate in the research. As it was such a small group, however, the Site Facilitator distributed and collected the questionnaires to ensure confidentiality and anonymity - and no names were requested.

In the questionnaire, students were asked to state

- the professional course they were studying;
- why they chose to study that particular profession;
- what rotation of the course they were doing at present;
- what hopes/expectations they had of the three interdisciplinary seminars; and
- what concerns or fears they had regarding the three seminars.

The purpose of the pre-course questionnaire was to acquire some idea of the demography of the students, the students' views before the seminars, and especially their expectations. This would help in assessing if the programme met their expectations and whether they had any relationship to the learning outcomes expected by the lecturers.

There was a 73.3% response rate to the questionnaire. It was completed by six (out of eight) MED students, by all three PT students, by one (out of two) OT students and one (out of two) DT student. During this period, no nursing students were participating in the programme.

While analysing the pre-course questionnaires before facilitating the focus groups, I realised that I had omitted to ask about their previous schooling background. I felt this was important information, as their learning histories may have some relationship to the interdisciplinary experience. I used this to my advantage in the focus group interviews by starting the sessions by asking students to introduce themselves informally, mentioning where they were born, where they lived and which high school(s) they had attended.

3.3.2 *Course evaluation forms.*

The evaluation forms were developed by the programme planning team.
I intended using the course evaluation forms from all five groups that participated in the programme throughout the year. This included the group which was interviewed in depth in the focus group interviews (which formed the core of the research data) as well as those who were not interviewed. Unfortunately, only the evaluation forms completed by the MED students were available. The forms from the other disciplines were either not completed or were misplaced, but I could not locate them. This inevitably introduces an element of bias into the overall analysis of the results.

I used the data from the completed evaluation forms of the first three cycles of students participating in the WIDP during 1997, to help determine the guide questions for the focus group interviews with the students. In analysing the findings from these formal evaluation forms that the previous students had completed, I obtained an idea of how the students rated the seminars and limited insights into how they viewed the interdisciplinary programme. (See Appendix E.)

The information gained from the evaluations was limited in terms of gaining insight into the questions I was interested in researching, however - being an understanding of the contextual, curriculum and organisational conditions necessary for effective interdisciplinary education.

I used the data from the evaluations of the five groups who participated in the programme during the year, in the analysis phase. They provided an important source of data for cross validation and as a form of triangulation to increase the reliability of the information gained from the other forms of data collection. They also gave a comparative qualitative view.

3.4 Participant observation.

Participant observation refers to a process whereby a researcher is not an objective outsider, but is "directly involved in the social world he/she is studying" (Zuber-Skeritt O,1992:134).

My understanding of participant observation is similar to that of phenomenography. As the education researcher, I study and record in detail how the students perceive and experience the interdisciplinary programme. As the researcher, I bring my own frame of reference and have given some of my own interpretations. I have endeavoured to state clearly my own views or interpretations and they remain open to critical appraisal or reinterpretation.

In my situation, I was part of the planning and implementing team. I had also co-facilitated the seminars on 'multidisciplinary PHC case management' and 'Wellness' for the first three student groups of 1997. For the fourth group, at the beginning of the second semester, we rotated facilitators. I had therefore observed and experienced the programme as a participant for three different groups. I also had a fair idea of some of the problems as perceived by the lecturers, and limited responses from the students through their course evaluation forms and through informal discussions with them.

I felt it was important to obtain a deeper understanding of the experience, especially from the point of view of the students. My lack of direct involvement in the facilitation of the fourth group became an advantage, as it made my role as researcher clearer to the students - although I was open about my involvement in the programme.

I considered all the most common issues that could affect the relationship between the interviewees and me (especially the students) such as age, gender, race and status. As mentioned before, the students most affected by my position were the MED students as I co-ordinated and assessed their PHC block. These students in particular could have been tempted to give false responses and say what they thought I wanted to hear. They could also have remained silent, or have said very little. I was also aware that the students would see me as being predisposed towards interdisciplinary education. There was quite a large gap in age and status and they could have felt obliged to say what would please me.

Since the anonymous evaluation forms largely corroborated the information obtained in the focus group interviews, however, I believe that most of the information was accurate and honest. Not all students related positive experiences, and many gave constructive criticism.

4. THE LIMITATIONS TO THE RESEARCH.

The main limitation was that I only held focus group interviews with one group of students. Although the formal evaluations largely supported the findings from the focus group interviews, the information from the evaluations was limited.

There may have been different results if I had combined students from different disciplines in the focus groups (other than the OTs and PTs who were combined for practical reasons.)

It may have been useful to have one other person running a focus group interview using the same interview guide schedule to see whether the results would have been the same.

Lastly, new or different views may have been heard if I had used a free attitude, individual, in-depth interview with a student from each. Although the group situation seemed to relax the students and they generally spoke freely, it may also have limited some of their responses.

I was unable to give feedback to the students on the interpretations of their interviews and had to rely on informal discussion with lecturers for this to happen.

I omitted to interview the clients who had been interviewed by the students, fearing both interview fatigue for the clients and the fact that the interdisciplinary plans devised by the students could not be practically implemented. This was recognised by all stakeholders as a serious weakness in the programme. In retrospect, I feel I should have gained the clients' perspective on the interdisciplinary visit, and that this should form part of future study.

5. THE SIGNIFICANCE OF THE RESEARCH.

UCT's proposed changes towards interdisciplinary programmes and the restructuring of the National Health Services with an emphasis on interdisciplinary PHC teams, means that this research could assist with and inform the development of broader undergraduate interdisciplinary curriculum development.

6. ETHICS.

At its meeting of 14 August 1997, the Higher Degrees Committee of the Faculty of Education accepted the title for this minor dissertation.

The working group responsible for the programme granted permission for the research.

Permission was requested from all interviewees with a clear explanation of the nature and intentions of the research. Each individual had the option to refuse to be interviewed.

Interviewees remain anonymous, thus confidentiality and anonymity of the source of information will be maintained.

Chapter Four

ANALYSIS AND DISCUSSION OF FINDINGS

INTRODUCTION.

This chapter largely comprises a descriptive portrayal of the findings, with some of my own interpretation and observations.

The focus group interviews with the students and in-depth interviews with the staff form the basis of the data analysed. In this way, the voices of the participants of the programme and the meaning they make of the phenomenon (of interdisciplinary education) is a central feature.

As has been said, I have used the formal student evaluation forms and my observations to crosscheck information gained from the interviews. I have chosen to draw out the common themes within the various categories identified, but will also highlight major differences and similarities between different groupings, and at times between individuals.

What follows is a set of categories which represent a "reasonable" reconstruction of the data which resulted from using the constant comparative method of data analysis. This comprised coding the data, drawing out units of meaning, categorising and refining categories and exploring the relationships and patterns across categories (Maykut and Morehouse, 1994:134). I was able to synthesise the data into five main categories i.e.

1. learning experience,
2. approaches to health care,
3. role identification,
4. perceptions of own and other disciplines; and
5. power relationships.

As these categories concurred so closely with the sub-categories within the research aim, I have chosen to reflect on, describe and interpret the data according to these sub-categories (as outlined in the research aim):

1. Kinds of learning gained.
2. Students experience of interdisciplinary learning.
3. The curriculum conditions that facilitated or hindered learning.
4. Attitudes towards their own role and that of other health professionals.
5. Attitudes towards the hierarchy within the health profession (team) - status and knowledge.

1. KINDS OF LEARNING GAINED.

Most of the students' responses were about *what* they had learnt. I clustered their responses into three main themes:

1 Interdisciplinary learning.
2 Discipline-specific learning related to the site of teaching.
3 Self awareness, personal and professional development.

1.1 Interdisciplinary learning.

1.1.1 Appreciation of different approaches and roles.

Nearly all the students spoke about how the interdisciplinary case management seminar made them realise that there were different approaches to health care from varying perspectives. They learnt that differences existed between their disciplines. They also found that they gained clarity on their different approaches to assessment, diagnosis, analysis and treatment of patients, through visiting the patients together in small interdisciplinary teams, and discussing a management plan in the seminar. All students concurred with the statement that

> "Learning with different disciplines was useful and that it was better to see patients together with other disciplines."
>
> (MED student / FGI)

Before the seminars, they did not have a clear idea of the scope and practice of each others' professions, especially those of OTs and dieticians.

> " I learnt to value the differences. Different professions, if they work together, can get far in treating patients. I didn't really know what other professions did like OTs and especially dieticians."
>
> (PT student / FGI)

This correlated with the expectations expressed by lecturer,

> "that students would be interactive; in these interdisciplinary seminars students would learn from each other what each discipline does. They would explore more overtly the role and scope of the different disciplines and gain a clear understanding of, and respect for, each discipline: the scope of their roles and their input."
>
> (Lecturer interview)

As a participant observer in the seminar on interdisciplinary case management, I observed how interested students were in sharing their various ways of 'doing things' and the perspective of their discipline on health care. They also showed appreciation of different approaches, and wanted to work together to establish whether there could be a common approach and where they could incorporate new ways of doing things into their established approach.

Given the way the system has worked and persists in working,[1] it is perhaps understandable that PT students have limited knowledge of the role of dieticians. It was surprising to discover that PT students do not have a clear idea of the role of occupational therapists, however.

1 Each discipline is trained separately, has limited knowledge of each other's ability and function and thus limits interdisciplinary communication and referral.

My assumption was that because OT and PT students are both being trained - largely, but not exclusively - in the field of rehabilitation, they would need to understand each other's role. It made me acutely aware of how entrenched the barriers are concerning professional boundaries and identity and confirmed that building a health team will need a new approach to developing a team identity and to breaking down professional boundaries.

The MED students, who were the least experienced in their field of practice and whose education is dominated by a technological discourse, felt that they could learn a lot from other disciplines, especially the OT students (whose education incorporates strong elements of a humanist discourse).

> "Visiting together with OT students can help us learn how to approach people. Having done psychology, they also deal with feelings of patients. As medics, our questions to patients are limited. I was very impressed with OT students and how they related to people at NOAH and how well they got to know them."
>
> (MED student / FGI)

This finding was contextualised by the OT lecturer in her interview. She felt that

> "OT training encourages students to consider the individual in context; and from there, consider how the context generates problems; and then the problems unique to the individual."
>
> (Lecturer interview)

MED students responded to and appeared to show appreciation of the holistic biopsychosocial approach to health care practised by the OT students.

Significantly it is during this eight week block that MED students are introduced for the first time in their medical training to family medicine. Family medicine is based on a similar holistic and biopsychosocial approach to clients, which includes the individual and their problem, located within a family and a community. (The family medicine approach is not as yet integrated into any other medical courses they cover in their training, however - except when they revisit the approach for two weeks in their (sixth) final year.)

Despite this however, although the MED students noticed and showed appreciation of this approach when it was practised by the OT students, they did not appear to relate this to their own training in family medicine. It was not clear why this was the case. My assumption is that they expect other disciplines to display a different approach, but cannot associate this within their own (medical) practice, as they have observed most doctors practising the 'technical', biomedical approach to health care. The holistic approach to health care creates a changing role for doctors (MED students).

1.1.2 Linking training to practice.

The students were beginning to make links between their training and their approach to practice. When I asked for their general comments and anything else they wished to add, a MED student suggested that this team approach should be integrated into medicine, surgery, and all other aspects of medicine:

" Ward rounds should be done in multidisciplinary teams."

(MED student/FGI)

My interpretation of this comment was that the student was suggesting that interdisciplinary teams should become the norm. (This was suggested by a number of students from the various disciplines). The comment suggested that they felt that if an interdisciplinary approach was part of their everyday practice, it would benefit all of them (and their clients), even in the hospital setting. Apart from relating education to practice, it seemed that they were transferring learning from one level of health care practice to another.

As mentioned in the literature review, interdisciplinary teamwork is a principle within the PHC approach that is essential at the primary level of care - but should not be neglected at the secondary and tertiary levels of care for effective health care delivery. The intention of the lecturers, through this programme, was that students would make a

"shift in direction towards a holistic picture of individual health needs and an understanding of the shift to comprehensive PHC, and especially primary level care."

(Core Interdisciplinary curriculum, 1996)

1.1.3 Holistic and team approach to health .

According to expectations expressed before the course, there was a great degree of congruence between expectations of most students and that of lecturers regarding what was *actually learnt* about different roles, teamwork and a more holistic approach to health. The MED students, in particular, felt that they learnt a more holistic and team approach to health care.

However, a lecturer commented in her interview that the objective "that students would think more about the psychological make-up of the patient - people's pain expressed by their body symptoms" was only partially met.

1.1.4 Different discourse, knowledge and practice.

One of the PT students was open about his difficulty in understanding the discussion between DT and MED students on a particular case. (This particular case dealt with dietary treatment of a disease in place of, or in combination with, treatment with medication. It may well have been a 'disease' that a physiotherapist may hear about, but not necessarily learn about in detail.)

> "I didn't understand all the time, especially in the discussion between the MED and DT students regarding treatment, but started understanding different approaches."
>
> (PT student / FGI)

This raised the issue of differences in discipline-specific knowledge, especially factual and technical aspects, which may have meaning for some but not for other health workers. Similarly if OT and PT students have a discussion on the technicalities of physical rehabilitation, I would assume that MED and DT students may not be easily able to follow. The importance in this case for the PT student, however, was that he used the opportunity to analyse the difference in approaches to treatment and to learn about the different types of knowledge each discipline has. In reading deeper into this statement, issues regarding the power of different competences is an important aspect of interdisciplinary education. There will always be the need for specialised knowledge and skills in

relation to the competences of each discipline. But how the differences are viewed and used either for competition or collaboration is an important aspect of the teamwork.

1.2 Discipline-specific learning related to the care of the elderly.

Chapter 1 describes how all students had their discipline-specific learning objectives for their community-based block in addition to this interdisciplinary programme. (These included research, health promotion, geriatric (rehabilitative) care and community rehabilitation). Some students applied the learning from the seminars more broadly to the subject matter of their block and to their course in general, where appropriate.

The PT students were rotating through various learning sites while doing their geriatric block. Most of the sites were traditional old age homes, whereas the NOAH gave them insight into a different approach to the care of the elderly.

> "The care at the NOAH is very different to old - aged institutions; it's community-based care was a better alternative to institutions."
>
> (PT student/ FGI)

Lecturers, especially those who had placed students at the NOAH for this block, expected that students would gain some understanding of geriatric care.

The PT and OT students felt that the seminar on 'suffering', in particular, was relevant to the geriatric block in which they were engaged. They related this to the fact that the elderly are often dealing with issues that cause 'suffering' such as loss (loss of family, loss of function; loss of traditional role in the family and in society) and depression.

The MED and DT students did not verbalise the connection between suffering and the elderly, possibly because the rest of their block did not necessarily relate to the elderly. [2] This silence could also relate to dominant discourses in their training, however. The emphasis in the MED student training - being mostly of a 'scientific/technological' rather than 'humanist' discourse - would de-emphasise the psychological issues. As the DT students *do* include the humanist discourse (since they often deal with "quality of life" issues), I felt they would apply this aspect to their work. It was surprising to me, therefore, that one DT student commented in the focus group interview that the seminar on suffering was

> "more suitable for OTs - they are involved with more than just physical pain."
>
> (DT student/FGI)

This statement is in contradiction to the expectation of the dietetics lecturer that dieticians

> "were less curative than medics, more concerned with quality of life. It is important for all to acknowledge that we can't always cure, but can be assisted to live with an illness."
>
> (DT lecturer)

In the focus group interview, one of the DT students said that they

> "didn't really feel included as dieticians; it was not that beneficial for dieticians."
>
> (DT student/FGI)

Another added:

> "The choice of patient for the PHC case management, in terms of age and problems are generally not dietary related."
>
> (DT student/FGI)

---

2 The research and health promotion projects that the MED students were involved in during that particular block did not involve issues of the elderly.
The DT students were placed at Groote Schuur Hospital at the time, and were not necessarily working with elderly people.

Although there were a few positive comments on what they learnt, I felt that the DT students' comments in the focus group interview did not reflect their observed participation in the groups which was usually enthusiastic and participatory. They also mentioned in their pre-course questionnaire that they had not been prepared for the seminars and, in the focus group interviews, that the seminars were disruptive to the block they in which they were engaged. Their concurrent block was not a community-based block, but at secondary and tertiary hospitals. It was also not necessarily related to issues affecting the elderly.

This highlighted some of the issues raised by Harden (1998): the need to match the context, curriculum goals and approach to interdisciplinary education in order to implement effective programmes (as mentioned in Chapter 1). These broader contextual and curricular issues could explain why the DT students did not appear to make a connection between discipline-specific learning during this interdisciplinary course and the block they were involved in. It was out of context to their block at the time, and possibly bore no links to their immediate curriculum goals.

As lecturers we were well aware of some of these issues, but in order to include the various students, it was not always possible to ensure ideal circumstances.

1.3 Self awareness, personal and professional development.

1.3.1 Self awareness and personal development.

> "The seminars on wellness and suffering - made one more personally aware, rather than necessarily multidisciplinary."
>
> (MED student/FGI)

Most students felt that they increased their own awareness and gained in self development in terms of the seminars on 'wellness' and 'suffering.' When these seminars were being designed, the learning objectives were largely geared towards

- understanding the concepts of 'wellness' and 'suffering';

- the role of the health professional in promoting and maintaining wellness and alleviating suffering; and
- the limitations to that role.

From the comments below, it appears that students did gain personally from the seminars:

"The 'Wellness Wheel' was useful for your own self-awareness."

(MED student, evaluation form)

"The seminar on suffering was very good to make you more aware; see a person as a person."

(DT student, FGI)

"Although we are aware of suffering, it put it more into perspective."

(PT student, FGI)

This is in keeping with one of the expectations of the facilitators that

"students would learn, not really as separate disciplines, but as people learning from their own and each others life experiences."

(Lecturer, interview)

1.3.2 Professional development, identity and development of a health team.

Students were expected to identify factors which contribute to a state of wellness and prevention of disease and explain the health professional's role in promoting wellness by relating these concepts to the individual they visited. These issues were also discussed in the seminars.

Despite this, most students did not mention learning about their professional role or limitations to that role. The OT and PT students did express that it was also important to consider the impact of suffering on the health worker. I would assume that this type of insight is related to the fact that the OT and PT students had more practical experience in their fields - and, as mentioned before, their training includes stronger elements of the humanistic discourse than the others (MED and DT).

Although the students did not explicitly verbalise the extent to which the concepts discussed in seminars on 'wellness' and 'suffering' were integral to becoming a health professional, their comment above suggests tacit acknowledgement of their relevance. The MED students in particular thought that the topics for the three seminars were very useful:

"They made me think. We wouldn't touch these topics in medicine."

(MED student/FGI)

This suggests that these topics should be included in medical training.

In addition to directly developing a health team, interdisciplinary education can serve a number of purposes. For example there are certain core competences and concepts essential to the training of all health professionals that are best taught in a interdisciplinary environment to develop a common approach and understanding within the health team. (These would include ethics, human rights, health promotion, communication, interpersonal skills, group dynamics and teamwork.) Lecturers mentioned other aspects that they hoped would arise in the seminars.

Some of lecturers' expectations regarding these topics and the learning objectives were only partially met, such as

"students would begin to think more about wellness and suffering and look at themselves as well as their care of patients; they would make changes in terms of care."

(Lecturer interview).

Other expectations voiced by the lecturers appeared unmet - or at least not verbalised or clearly expressed by the students:

"That they would examine the political nature of illness; That they would raise other issues around care - e.g. power relationships between health worker and client."

(Lecturer, interview)

"Students would think more deeply about what they are doing; their need to help (successfully) and how people cope or don't cope. It is not always possible to cure/ do something for someone. As a health worker one may feel impotent at such times; how do you deal with feelings of helplessness?"

(Lecturer, interview)

and

"Through using the wellness wheel, students would link awareness of their own health to their role as health professionals in terms of promoting health. The video would help illustrate that physical wellness doesn't always mean being 'well' and physical disability does not always mean being 'unhealthy'."

(Lecturer, interview)

2. STUDENTS' EXPERIENCES OF THE INTERDISCIPLINARY PROGRAMME.

I have chosen to separate the discussion of students' experiences of the programme from the discussion of what they learnt. In this section I will therefore focus on students' feelings about the experience of learning together. I felt it was important to see whether their experiences removed or created barriers to learning and working together.

Students expressed both positive and negative feelings about the experience, with most students experiencing it positively.

2.1 Positive feelings.

Some students felt that the experience of the programme had made them feel that the team approach to health care benefited both one another, as well as improved patient care. Most felt that they had developed respect for others and for their own profession. This development of respect is what the facilitators had hoped to achieve.

In addition to the seminars, students also found the experience of the shared home visits and discussions useful, helping them to define more clearly the different roles they play and how they each evaluate patients. Through this experience, they felt they gained a clearer understanding of the role of each profession.

"We all have a role to play and to work together for the patient's benefit. In first year we discussed the different roles of all the professions, but here we experienced it."

(PT student/FGI)

2.2 Negative (and neutral) feelings.

Negative experiences in this case appear to be associated with

- inadequate preparation;
- poor correlation between the learning objectives of the interdisciplinary programme and the rest of the students' curriculum; and
- the student's negative attitude prior to the experience.

Some of the negative and neutral feelings were expressed by one DT and one MED student.

"I did not really feel included as a dietician and that it was not that beneficial for us as dieticians."

(DT student / FGI)

This was mainly due to the fact that the dieticians felt that the cases chosen for the PHC case management - choice of patients, age and problems - were generally not dietary related and limited their potential participation in the team. They also felt that they lacked preparation.

A MED student felt that he had mainly neutral feelings; neither negative nor positive feelings. He expressed this by saying,

"learning wasn't mountain moving, just small revelations."

(MED student)

This response to the experience seems to tie up with the original expectations. In their pre-course questionnaires, for example, the MED students' main concern was that they would be bored. This could account for the neutral or non-commital attitude of some of the MED students in the focus group interview and formal evaluation forms.

The overall feeling was that, although the experience was largely positive, this type of interdisciplinary learning needed to be integrated into the rest of their training to increase the effectiveness of the experience. As an isolated event in their training, the majority felt similarly, that they

"still lacked a deep enough understanding of each profession."

(PT students, FGI)

The lecturers felt that some barriers had been removed in the very short time spent together. They felt that becoming part of a team, even for that limited period, had built the morale of students, especially the less acknowledged disciplines. This is echoed in how the OT and DT students attached value to being able to explain their role and being listened to with interest and respect.

3. THE CURRICULUM CONDITIONS THAT FACILITATED OR HINDERED LEARNING.

The literature on interdisciplinary education proposes particular curricular conditions conducive to interdisciplinary education. I felt it was important to gain insight into the students' views of what facilitated or hindered their learning. The main themes in this sub-category relate to

- home visits;
- small group learning;
- choice of cases and curriculum goals;
- stage of students' training;
- length of seminars and large group discussions; and
- limitations to learning.

3.1 Home visits.

Apart from the seminars, students also found the shared home visits and the discussions that followed helped them to learn more about the different roles they play and how they each evaluate patients. This echoes the importance of experiential learning, as a component of the learning, necessary to build a multidisciplinary team approach to health care delivery.

3.2 Small group learning.

The MED, OT and PT students felt that the interactive seminars and small group discussions enhanced learning. The OT and PT students felt that they benefited from both the small group discussions and feedback from the different groups. They further felt that facilitation in the small groups was good and gave direction to the discussions.

" Small groups help more because it is easier for everyone to have a say and you learn more."

(PT student / FGI)

Most students felt the small groups were unequal in terms of representation from all disciplines. Some students felt that it was important that there should not be more medical students because they were a big group and the larger the representation, the more the group tends to dominate. It is important to have equal representation to prevent one group dominating others, especially if it is the perceived dominant group which is in the majority.

3.3 Choice of cases and curriculum goals.

Most students felt that the cases were relevant to their discipline and to the learning objectives of their block. The DT students, however, felt that the choice of cases for the PHC case management seminar - e.g. the age and problems they suffered - were not generally dietary related. For the DT students, the timing of the seminars was not appropriate, as they were not doing their community block. One DT student commented,

"the seminars disrupt the blocks we are busy with."

(DT student/FGI)

3.4 Stage of students' training.

As mentioned in Chapter 1, all students were at different stages of their training. Relative to the other students, the MED students were the least experienced in their field of practice.

One DT student commented on a case discussion that,

"The MED students are not very experienced and the learning is unequal - not much is learnt from the medics – there should be mutual learning. For example, the medics could do more on drugs and other treatment."

(DT student/FGI)

The other DT student felt differently,

"It doesn't matter if we learn less - at least exposure to what we do will make doctors remember that dieticians should be referred to."

(DT student/FGI)

Although this student saw a positive side to the unequal relationship, the evidence suggests that it is important to match the category of students according to the stages in their training in order to enhance the interdisciplinary experience. The MED students, in their 4th year, would not have sufficient knowledge on pharmacology to speak about the appropriate medication for the conditions, or any other treatment, to the extent that might satisfy the DT students.

3.5 Length of seminars and large group discussions.

There was a noticeable difference between the MED and DT students' views and those of the PT and OT students regarding the seminars and large group discussions.

The MED students in particular, supported by the DT students, felt that the seminars were too drawn out; time for discussion in small groups was too long and they felt that feedback in plenary was very similar to the discussions in the small groups. They felt

"there was too much waffling and repetition, leading to boredom."

(MED student / FGI)

Some general comments were,

"Some seminars are very round-about and drawn out."

(DT student/FGI)

"Sometimes in the small groups, there was no buzz, then there was limited sharing and participation."

(MED student / FGI)

Speaking on the seminar on suffering, the MED an DT students felt the whole group was much too big. In this seminar, for a certain period, all the students remained in one big group (15 students), without splitting into small groups.

The OT and PT students, felt differently:

"Time was too short to really get to understand what each profession has to offer."

(PT student/FGI)

"Small groups helped a lot. There is free discussion and you cover more detail."

(OT student/FGI)

These comments relate not only to the expectations expressed in the pre-course questionnaires (where the MED students expressed a concern of possible boredom), but also the kind of information students value, their learning histories and possibly to the lecturers' facilitation skills.

MED students, in particular, are accustomed to subjects in which students are required to absorb and maintain a mass of data. They are generally `fed' numerous facts and endless information and mostly tested using multiple choice questions (MCQs) or short answer questions. As mentioned in Chapter 2, the dominant discourse in medical training is within a scientific/technological discourse. Discussion and reflection on concepts and process are generally alien to training of MED students. They may need some time to adapt to a new learner role required for reflecting on process and questioning and analysing content instead of absorbing content.

3.6 Limitations to learning.

Some of the lecturers felt that in general students seemed to have difficulty in transferring or applying previously learnt theoretical knowledge to practice. For example, many students, especially PT and MED, had covered a lot of physiology, but could not apply the physiology to working out how much exercise one needs to do to be regarded as being healthy i.e. simple measurements of physical wellbeing such as heart rate and breathing.) This is a broad pedagogic issue relating to the way health sciences are generally taught, that is, through rigidly organised subject matter in a didactic style. An integrated, problem-based approach to teaching and learning should help to minimise this problem.

4. ATTITUDES TOWARDS THEIR OWN ROLE AND THAT OF OTHER HEALTH PROFESSIONALS.

From the interviews conducted, from the formal course evaluations and from my observations as participant observer in the process, I noted that both students and teachers had preconceived ideas of their own roles and that of other disciplines and how they relate to each other and to clients.

Through interacting with each other, it appeared that students had been consciously reflecting on their own and each others' roles. The majority of the students expressed positive attitudes towards their own and other disciplines through this shared learning experience. The OT and PT students felt that this experience helped reinforce the value of their own profession, especially regarding geriatric care.

The MED students seemed to make the greatest shift towards learning to value other professions. In one evaluation form, a student wrote,

" I appreciated the role of the paramedical fields more. I have great respect for dieticians."

(MED / evaluation form)

MED students felt they could learn a lot from other disciplines.

" As medics we jump too quickly to medication."

(MED student / FGI)

The MED students, themselves, remarked on the fact that they approached clients with prepared and limited questions and could learn a lot from their colleagues in the AHPG.

"I was very impressed with the OT students and how they relate to people at NOAH and how well they get to know them."

(MED student / FGI)

One of the facilitators, a doctor speaking from her own experience, felt that it is important to have other students present, especially for the medical students' benefit:

"As a single discipline, talking as a doctor, medical students are not taught to deal with many issues e.g. in depth appreciation of human beings; life's stresses - denying self care; recognition of suffering and what to do with it; personal and patient humanity; they don't think about teamwork."

(Lecturer, interview)

Medical students acknowledged the usefulness of learning about and from other disciplines. Drawing on the evaluation forms, some comments on changing attitudes towards their own discipline, were

> "Yes, multidisciplinary is the way to go. Medics are not the be-all-and-end-all of health."
>
> (MED/evaluation form)

and

> " I've discovered that the role of a doctor is much broader than I have previously thought."
>
> (MED/evaluation form)

While most participants expressed positive views of their own discipline and of the other disciplines, there were also negative reactions and responses expressed towards the shared learning experience. One OT student expressed that she felt that the experience had "reinforced the impression of the arrogance of medical students" and suggested, "they should be more human." (OT student / FGI)

The interdisciplinary group of lecturers learnt that "it forced us as lecturers to look at ourselves and issues lost along the way." (Interview with lecturer).

Nearly all the lecturers had been trained within their separate and isolated professions. In the discussions it emerged that the commitment to interdisciplinary teamwork was due to the belief in implementing the PHC approach.

For most of the lecturers, it was the first time they had been involved in designing, implementing and facilitating an interdisciplinary training programme. The lecturers statement in the above paragraph related to the need for the planning team to examine our prejudices, stereotyping and view of interdisciplinary education (Interviews with lecturers).

In general, although all lecturers were committed to the programme, they seemed to have more stereotypical and entrenched notions of the different professions than the students. The OT lecturer remarked that she was "amazed at some of the medical students holistic view of health care."

Although this was a positive response, some MED students may have experienced this attitude as a prejudice. In their formal course evaluation forms, two MED students remarked that it was as if this interdisciplinary learning was set up to undermine doctors.

" 'Let's bash doctors' approach doesn't get anyone anywhere."

(MED/evaluation form)

and

"it really sucks; merely an opportunity to trash doctors,"

(MED/evaluation form)

and

" The OT lecturer expected MED students to become OTs. I don't want to be an OT!"

(MED/evaluation form)

These feelings could have led some students to behave defensively in an "arrogant" manner or perhaps they were struggling with a new learner role. These comments could also be caused by the struggle on the part of some MED students to incorporate a humanist discourse into their dominant technological and scientific discourse.

There are always power relationships between teachers and learners - while at the same time, learners see the teachers as role models and mimic their views, attitudes and actions. As already mentioned, an historical hierarchy exists in the Faculty between the medical profession and the AHPG. The change of name recently (2000) from the Faculty of Medicine to the Faculty of Health Sciences has not been enough to erase this historical hierarchy. I observed at times that the OT students had stronger reactions to the status and actions of the MED students than students from DT or PT. Perhaps they were picking up the tension in the Faculty between the AHPG and the medical profession.

This tension could be more evident between OT and MED, however, because of the major differences in educational and practitioner discourses and thus to the approach to dealing with clients and communities and health in general. The OT students' responses could also be related to the OT students' perceptions of their 'unacknowledged role.' Especially in this community-based (geriatric) site, the OT students were often the most comfortable and confident and 'leaders' in the field, but not overtly recognised as such. What is interesting is how many MED students in both the focus group interviews and in the evaluation forms praised the OT students. A MED student commented in her evaluation form,

> "It made me realise that we have a 'wall' between ourselves and our 'patients' and we need to interact with them more and become more 'friends' as the OTs do."
>
> (MED / evaluation form)

5. ATTITUDES TOWARDS THE HIERARCHY WITHIN THE HEALTH PROFESSION (TEAM) - STATUS AND KNOWLEDGE.

Lecturers expected that students would raise issues of professionalism and express how they, the students, view professionalism. They expected students to present misinterpretations of professionalism and that students would refer to the power and hierarchy within and between professions.

> "how do we break through the formidable formalities and tradition of power of the 'doctor'?"
>
> (PT lecturer).

Preconceived ideas, especially of the better known professions, for example, doctors, did emerge from students' responses, but not the broader issues regarding professionalism such as the hierarchy within and between professions. This could be related to the students' limited experience with the issues, or the fact that we did not make this a clear learning objective to explore.

Lecturers thought that issues of power and hierarchy within the interdisciplinary team would emerge. Students raised some issues relating to power relationships, in the focus group interviews, but not as much or as strongly as the lecturers expected. There are three main themes in this sub-category:

- status and equality in the group;
- knowledge as power; and
- balanced representation (in numbers) in groups.

5.1 Status and equality in the group.

In the pre-course questionnaires students did not verbalise issues relating to power and hierarchy, but these could have been implied in their wanting to understand each others' roles. Other comments that could imply power relationships follow.

> "I could teach the other disciplines what OT is all about!"
>
> (OT student / FGI)

and

> "It doesn't matter if we learn less – at least exposure to what we do will make doctors remember that dieticians should be referred to."
>
> (DT student/FGI)

The role of the occupational therapist and dietetician and, to lesser extent, physiotherapist, are the lesser known of the health professionals. In the past, a doctor would have to refer a client to these members of the health team, giving them the power of whether or not to acknowledge their role.

> "Physiotherapists and others still have to fight to prove themselves and fight to be directly a point of first contact without needing referrals from doctors."
>
> (PT student/FGI)

PT and OT students felt they still had a long battle ahead to equality within the interdisciplinary health team.

> " I'm always amazed at how few doctors know what OTs and PTs do and do not take the time to find out."
>
> (OT student/FGI)

The OT and PT students also mentioned the dominance of Matrons (nursing). They felt it was time to "hear others, new ideas." (OT student / FGI)

Comments made by the MED students about the other disciplines as a result of this programme, suggested that the failure of doctors to refer clients to other professions might have more to do with ignorance, rather than power alone.

The OT and PT students, however, acknowledged that each of their degrees takes so much time that they need structured opportunities such as this programme for them to learn about each other and how they can enhance each other's practice.

5.2 Knowledge as power.

Although there are core competences for all health workers, it should be accepted that there are specialised knowledge and skills specific to each discipline.

Where there are differences, practice within an interdisciplinary approach should encourage students to share their knowledge and ensure that all in the team understand the content. If this is not done, those with specialised knowledge exclude those who do not have the knowledge and thus cannot participate in the group discussion. This does not mean that everyone has to have the same knowledge, but that they should not hold back knowledge in a manner that gives them the power to exclude or undermine others.

> "We are too proud of own professions; don't want to share, especially between medics and others. Somewhere we all forget about the patient - teamwork is for the benefit of the patient, not who knows the most or who has the most power. These are important for students to grapple with."
>
> (Lecturer interview)

One of the lecturers felt that through interdisciplinary education, leadership of the team could also be shared by rotation of leadership:

> "Medical students don't need to feel that they always have to lead the 'team'; that others can also lead."
>
> (Lecturer interview)

I mentioned in Chapter 1 that this study was not able to deal in-depth with the issue of changing power relations and I return to this briefly in the concluding chapter.

5.3 Balanced representation (in terms of numbers) in groups.

Issues of power relationships between the different disciplines in a shared learning experience cannot be ignored. This is especially true when the 'dominant' discipline is in the majority e.g. MED students. Students and lecturers both raised the issue of the unequal numbers in terms of representation from all disciplines. Most students, including the MED students, felt that it was important that there should not be more MED students.

A lecturer remarked that the MED students were dominant not only in terms of numbers, but also dominant vocally. The latter problem could be related to the perceived dominant status of MED students, but might also be a function of lack of effective facilitation skills on the part of the group facilitator which resulted in one person or one group dominating.

The problem of dominance in terms of numbers is a difficult situation to correct as there are more than double the number of MED students in the FHS than all the other disciplines together.

6. SUMMARY AND CONCLUSION OF RESULTS.

In analysing the data collected, I was struck by the difference between the expectations expressed by students and lecturers and what they felt they had learnt. The students had relatively few expectations, but when questioned on what they had learnt, related many learnings. The lecturers had many expectations of what they thought the students would learn, but felt they had achieved very few.

The students expected to learn about

- each others' roles in terms of understanding the work they do and methods of assessment, diagnosis and treatment;
- how they could work together for the benefit of patients and the community; and
- some expected to have the opportunity to teach others about what they do.

In their responses, most students felt that these expectations had been met, although most also felt that the time was too short to gain a thorough understanding of each others' roles and professions.

In addition to their expectations, students felt they learnt

- to appreciate each others approach and roles and how working together as a team could lead to a holistic approach which would benefit people needing health care;
- that they could learn from each other to enhance their own practice;
- about the importance of self awareness and personal and professional development; and
- the relevance of concepts such as wellness and suffering to their practice.

The lecturers mentioned the same expectations as the students, but added others:

- that students would raise issues of professionalism, for example, what professionalism means, issues of power and hierarchy within each profession and between the professions and discuss misinterpretations of professionalism;
- that students would raise the political nature of health and illness especially related to different communities;
- that they would raise issues around the psychological nature of illness; and
- that they would talk about their need to help others and how they cope with not always being able to help or 'cure'

As participant observer, I knew that a number of these issues had been discussed in the seminars. Even with probing, however, they were not expressed in the focus group interviews or in the formal evaluation forms. There are a number of possible explanations for this.

As the time for the focus group interviews was limited and took place almost immediately after the last seminar, the students may not have had time to reflect on less obvious issues or may not have had the ability to articulate more complex issues. The time for each seminar was also limited, so they may not have thoroughly discussed and absorbed all these issues mentioned above.

The students' main expectations were to learn about each others' roles and disciplines. This may have been what they focussed on and integrated into their world view. Through their comments on the seminars on wellness and suffering, it was clear that for the majority, this was the first time they were critically examining these concepts. Taking into account their limited practical experience and the limited time for the course as an isolated event in their total curriculum, some of the lecturers expectations where possibly beyond what could be achieved in the circumstances.

Lastly, some of the lecturers overtly raised the issue that they hoped that MED students *in particular* would learn from others and recognise the importance of the other professions. They also hoped that this experience would help the MED students, (who concentrate mainly on diagnosis, treatment and cure) to gain a more holistic approach to health care, which would include prevention and promotion of health as well as rehabilitation to improve the quality of life.

This expectation was less overtly raised by the students who hoped to have the opportunity to teach others "what they do." (OT and DT student/ FGI). In some ways, changing the "attitude of arrogance" (Lecturer, interview; OT student/FGI) and the "formidable formalities and traditions of the power of the doctor" (Lecturer, interview) in order to build a democratic health team, was a partly overt, but in some ways, hidden agenda of the programme.

The findings from the data also raised a number of issues which will be discussed in the following concluding chapter as I return to the original aim of the research and relate the findings to the theoretical conceptual framework, and to implications for practice and further research.

Chapter Five

CONCLUDING THE RESEARCH

In this concluding chapter I return to the original aim of the research and relate the findings to the theoretical framework outlined in Chapter 2. I then identify implications for practice and future research.

The aim of the research was to evaluate elements of the pilot programme drawing on theoretical concepts and guidelines for interdisciplinary education and training. The evaluation focused mainly on students' perceptions of what learning took place and the conditions that facilitated or hindered interdisciplinary learning as perceived by the students and staff participating in the programme. It aimed to illuminate the significance of interdisciplinary education and training for students and staff of the Faculty of Health Sciences (FHS), especially within the context of primary health care (PHC).

Change from a dominantly biomedical to a PHC approach to health care necessitates a discursive shift in education and practice. Within the PHC approach, which depends on interdisciplinary health care teams, health professionals need to rethink their roles and purposes as well as their relationship to each other within the team. They also need to reconsider their identities as health professionals.

Through a case study (the Woodstock Interdisciplinary Programme - WIDP), this research explored the following questions in order to illicit the contextual, curriculum and organisational conditions necessary for effective interdisciplinary education, through the experience of students and staff participating in the programme:

1. What kinds of learnings were gained?
2. What were the students' and staffs' experiences of interdisciplinary learning?
3. What conditions were perceived as facilitating or hindering learning?
4. What were the attitudes towards their own role and that of other health professionals?
   and
5. How did students view the hierarchy within the health team – how did they perceive the status of each others' professions and the status of different types of knowledge?

The previous chapter gave a detailed analysis of the results, but some issues raised need further discussion. I will discuss these within the contextual, organisational and curriculum aspects of interdisciplinary education.

1. CONTEXTUAL ISSUES.

The contextual issues relate to broader issues outside of the institution and the curriculum.

Although the National Department of Health (DoH) in this country has adopted the PHC approach, changes in practice in the field are slow to be implemented at all levels of health care. Very few clinics or hospitals practice interdisciplinary health care. The advantage at the NOAH site was that they have adopted the PHC approach and there is the beginnings of a move towards the interdisciplinary approach.[1] This in itself, however, does not give enough acknowledgement or importance to an interdisciplinary approach to health care practice.

1 A variety of health and welfare professionals are present, but generally see patientspatients separately.

The different professional boards still largely determine the curriculum of their respective professions as well as practice, ethics and research. Although a Health Professionals Council, with representatives from all health professional bodies and community members, has been instituted, it has not yet engaged in policy regarding interdisciplinary education or practice and nor have the separate professional boards done so in any serious manner.

Until changes take place within the professional boards, and at all sites of practice, an isolated event such as this pilot programme, cannot effect a great degree of change. It was difficult to institute formal academic assessment of the students within this programme, as interdisciplinary work is not a recognised requirement of their training. This implies that it does not yet have the same status as single discipline learning.

Apart from these constraints, another broader contextual issue may be the fear some professionals have of losing their specific professional identity and autonomy. Leathard poses the following questions:

"...will professionals seek to strengthen their own professional territory rather than relinquish ground to interprofessional educational initiatives? Or will the health and welfare professionals find that their future may actually be enhanced and protected by learning and working together as a wider, more integrated force?"
(Leathard, 1994:30)

Both staff and students felt that this posed serious limitations to the effectiveness of the pilot programme.

2. ORGANISATIONAL/INSTITUTIONAL ISSUES.

In this case, the organisation/institution is the University of Cape Town (UCT) and its Faculty of Health Sciences (FHS).

Bassoff (1983) and Areskog (1994), cited in Carpenter (1995), stress the importance of both political and institutional commitment to interdisciplinary education. In our situation, the DoH and the FHS at UCT have committed themselves to the PHC approach, and thus to interdisciplinary education.

The PHC approach implies supporting community-based education (CBE) and problem based learning (PBL) in small groups. This puts extra demands on the FHS to organise adequate and safe transport to communities, facilities for small group teaching and training lecturers in PBL and CBE. These issues all have financial implications and will therefore need support, not only from senior management of the Faculty, but also of the University. In the pilot programme, we were fortunate that the NOAH in the Woodstock community was close to the FHS and students usually used their own transport or public transport. The NOAH provided the teaching venue and the staff negotiated their time with their departments and departments shared the costs of materials used. If the programme were to be expanded, departments may not be able to supply all the lecturers needed or cover the costs and the FHS would have to commit itself to assisting in providing the necessary resources.

Both lecturers and students felt that much more time needed to be allocated to interdisciplinary programmes. They felt they particularly needed the opportunity to work together practically with clients and put the theory of teamwork and collaboration of their complementary and common roles into practice. Most felt that individuals and communities would benefit through a team approach to health problems and to health promotion.

The students also felt that they should experience interdisciplinary education and practice at all levels of health care, from community-based to tertiary hospital care. Experiential learning is an essential part of interdisciplinary education. Restricting the experience of interdisciplinary education to input and discussion would be inadequate to achieve the end result of being able to work together.

The students in particular felt that the interdisciplinary programmes should take place at different intervals, but that it is essential that the interdisciplinary objectives are integrated into the broader aspects of the curriculum or module they are involved in. This supports Harden's view (applied to the case study of the WIDP in Chapter 1), that for interdisciplinary education to be effective it is essential that the context, the curriculum goals and the approach to multidisciplinary education are consistent. This has major implications for planning consistent periods of interdisciplinary training for all students, within the broader, discipline-specific curricula throughout their training.

This potential barrier to interdisciplinary education can be partially overcome by the Faculty making use of Harden's 11-step approach[2] to interprofessional learning. In deciding on on a particular approach, by choosing the most feasible and appropropriate step(s) on the continuum, Faculty could determine its possibilities and requirements in terms of interdisciplinary education. It is then possible to search for opportunities "where timetables can be manipulated, where content overlaps, where learning and teaching methods are similar and where enthusiasm is greatest." (Parsell and Bligh,1998b:524)

In summary, it is clear that extra time, effort and resources need to allocated to designing and implementing interdisciplinary education. It is important to have political and institutional commitment and to take into account that staff will need an orientation to the theory and teaching methods that support interdisciplinary education and to work through their own personal and professional barriers to interdisciplinary education. Ultimately it will be important to assess whether the goals achieved are worth the time, effort and finances dedicated to designing and implementing the programme - especially if ideal conditions for effective interdisciplinary education cannot be ensured.

2 Referred to in Chapter 1 and see details in Appendix B.

3. CURRICULUM ISSUES.

There were many issues relating to the curriculum that arise out of the research data.

The findings support the literature in terms of the argument that the underlying principles of CBE and small group PBL assist in developing a team approach to holistic health care. Through the home visit in the community and small group discussions, students also learnt about their various roles, differences and similarities within the health team.

The lack of congruence between the objectives of the seminars and the broader curriculum goals, however, hindered the learning experience, especially for the DT students. As mentioned above, this has implications for curriculum development in the Faculty in terms of matching the context, the curriculum goals and the approach to multidisciplinary education.

Mainly due to the brief time allocated to the interdisciplinary programme, there was also a lack of focus on teamwork and collaborative competences, which should be a major emphasis of interdisciplinary education.

3.1 Shifts in discourse and roles: disjunction

A major curriculum issue was the need to effect a shift in learning discourse, from a technological to a more humanist discourse, and introduce elements of a radical discourse, especially for the MED students. For some students this need to shift caused a tension, which at times inhibited learning and brought about resistance to this shift in discourse, and consequently to their role and identity. For other students, the tension between their familiar discourse and what the new learner discourse required of them, enhanced their learning. This indicates that each individual student is different and is either more or less open or closed to new discourses in different situations and at different times in their lives. Parsell and Bligh (1998b) introduced a questionnaire to test individual 'readiness'

for interdisciplinary education, which can be used to assess and assist with this problem. It may be useful to introduce this questionnaire into the WIDP, in the future. If effective, it could be used for all interdisciplinary programmes.

Although not included in my original literature review, the result of observing this tension lead me to explore the concept of disjunction. Savin-Baden (1997b) uses the concept of disjunction, in relation to PBL (described also by Weil (1989)) as a "starting point for learning" which can be enabling or disabling in a learning situation. Savin-Baden refers to disjunction as a "sense of fragmentation of part of, or all of, the self".

> " It is characterised by anxiety and confusion and a loss of sense of self, which often results in anger and frustration."
>
> (Savin-Baden, 1997b:534).

Since the concept of disjunction occurred in relation to PBL, it seemed logical that it would also apply to interdisciplinary education (which applies PBL as an underlying educational method.) This concept appears to correlate with the response of the two MED students mentioned in the previous chapter where they stated that they did not want to become OTs. It is possible that what they were responding to was a sense of disjunction brought about by the pressure to integrate the humanist discourse into their scientific and technological approach and that they feared the loss of self and identity as a 'scientific, professionally trained doctor.'

According to Savin-Baden, disjunction does not only occur in relation to a learning context or learner identity, but also when the student's current system of understanding the world is challenged. Bringing together students from different disciplines and backgrounds and having different approaches, especially in an unfamiliar learning environment (such as CBE) and using PBL, is likely to cause disjunction from multiple paradoxes. In her research, Savin-Baden found that it is mostly through encountering paradox that students experience disjunction. This was noted in some of the MED and DT students' responses in particular.

How the disjunction is managed, either by the student or educator is important in the learning situation. Savin-Baden suggests that it is critical to manage disjunction effectively. Shifts away from disjunction occur when there is integration of new concepts or experiences and sense and meaning is made of a contradiction. Weil (1989) suggests that the students ultimately take the responsibility for managing disjunction. Both roles can be taken into account by first identifying and locating the paradoxes leading to disjunction and then give students and staff the skills to reflect on and "make sense of their processes and processing" through the use of, for example, reflective journals and group reflection sessions (Savin-Baden,1998:13-16). A crucial implication for curriculum design, therefore, is that time needs to be allocated for locating and managing disjunction The issue of disjunction is an important aspect to take note of when designing and implementing interdisciplinary education. This was not included in the planning and implementation of the pilot programme, but should be incorporated in future curriculum design discussions.

In addition to disjunction, changing discourse is not an easy process. Since discourses are not 'taught' but are acquired over time (Gee,1990), it is a slow process. It is even slower (and increases disjunction) when espoused theories and theories-in-use[3] do not correlate. Savin-Baden, gives the example of "the degree of contradiction between staff's espoused theories and theories-in–use and, in particular, the extent to which critical thinking as espoused by the staff was valued in reality." (Savin-Baden, 1998:13)

A similar example of espoused theory and theory-in-use is how interdisciplinary teamwork is practised by professional staff and how it is awarded value through assessment. In the pilot programme at the NOAH, there was a commitment to interdisciplinary education, but, as mentioned before, there was no formal assessment of the students' performance or participation.

3 Espoused theory is what is said and theory-in-use is what is done. Often there is a dissonance between the two. Some people recognise and acknowledge the dissonance, while others may be unaware of it.

A change in discourse also implies a change in learner and educator roles. This needs time and attention to process for it to succeed. The time allocated to the pilot programme could not be expected to effect these changes. According to the student responses, however, there seemed to be some understanding of some of the shifts they needed to make. This leads to another issue that was not covered in my original literature review, but is important for future programme planning.

3.2 Shifts in approaches to learning.

Ramsden (1985) emphasised that the quality of the student's learning depends on the student's approach to learning. He separates learning into 'deep' and 'surface' learning.

The surface approach to learning involves memorising and reproducing information. It is effective for studying certain subjects in which the student is required to absorb and maintain a mass of data. This is the type of learning MED students, in particular, are accustomed to generally as they are "fed' numerous facts and endless information and mostly tested using multiple choice questions (MCQs).

Ramsden describes the 'deep' approach to learning as searching for meaning and exploring a topic or issue. This approach encourages critical thinking and analysis and is generally more effective in most learning situations. Skilled students are capable of employing the appropriate approach in a given situation. The aim of interdisciplinary education would be to employ methods that encourage the 'deep' approach to learning. In Chapter 4, I discussed the students' inability to apply the physiology they had learnt to assess when someone was physically 'healthy.' This illustrates a tendency to the 'surface' approach to learning.

Given all these difficulties and constraints, I would argue that interdisciplinary education should be introduced into the curriculum as early as possible, to optimise the possibilities of success for developing and implementing interdisciplinary health care teams for effective health care delivery. This view is supported by Parsell and Bligh (1998), Harden (1998) and WHO, 1988.

3.3 Prior experience.

The last issue that arose from the findings that can impose constraints on implementing interdisciplinary education, is the ' accumulated baggage of personal history' that comes from previous experience (Morphet, 1992).

Experience can enhance learning, but it can also inhibit learning. Morphet, drawing on Vygotsky, argues that our experiences

"... make some kinds of learning easy, speedy and powerful and they throw open the doors to some forms of new information. But they can also operate as a barrier, making other kinds of learning difficult, slow, keeping some doors closed..."
(Morphet, 1992:94).

Throughout our lives we learn through 'sets of rules' which become internalised. Many lecturers in particular have been trained and practised for many years in their insulated, single profession. They have become accustomed to ways of learning, teaching and practising and are used to rigid hierarchies within their professions and between their professions. As designers and implementers of shared learning, lecturers need to examine their own 'baggage' and preconceived ideas and prejudices.

Even students in their third and fourth years of training were, to some extent, accustomed to these traditional ways of operating as health professionals. If new information is similar or connected to these rules, it will be relatively easy to learn the new information and integrate it into their lives. If people are confronted with something totally unknown and unfamiliar, they do not only lack the "set of rules' to make sense of the information, but their old experience can

get in the way. People may first have to unlearn some of their 'old internalised' behaviour patterns or skills, before they can learn new ones (Morphet, 1992).

In the same way, students have their personal and learner histories which need to be explored and discussed. An example of this was the difference between the PT and DT students. Both groups of students came to the WIDP without any briefing or knowledge of the programme before arriving at the first seminar. While the DT students emphasised the negative aspects, such as the disruption to their block and the cases not being appropriate to accommodate their participation, the PT students were extremely positive and opened themselves to all possible learning opportunities. There may be two possible reasons for this difference in motivation.

This interdisciplinary programme complimented the objectives of the PT students' current block both in terms of the site of learning as well as the content, that is, community-based geriatrics. In addition the PT students' motivation and attitude towards learning could also have been influenced by a number of factors - their personal and learning backgrounds; their reasons for becoming physiotherapists and the approach to education at UWC. UWC incorporates periods of community-based, interdisciplinary education on a regular basis from their first year of study.

The DT students, on the other hand, were experiencing interdisciplinary education for the first time (in 5 years of study) and, as mentioned previously, the objectives of the pilot interdisciplinary programme bore no relevance to the part of the broader curriculum in which they were currently involved.

Lecturers need to have a clear idea of the level of knowledge, experience and ability of the students so that they are challenged, but not unrealistically so. Parsell and Bligh (1998b) stress the importance of starting with the student's "expectations, knowledge, attitudes and skills and not from where the teacher or organiser assumes them to be." (Parsell and Bligh, 1998b:523)

Taking into account the pre-requisites necessary for effective interdisciplinary education and all the constraints, I would still argue that teaching a core curriculum in an interdisciplinary environment should start from the beginning the first year of study. This could assist in producing a common health worker identity and team membership amongst students, where they speak and understand the same 'language' where necessary and value appropriate differences. This cannot be achieved if they are only taught separately. In theory this should assist in breaking down the barriers between disciplines and build respect for differences in knowledge, roles and tasks. A core curriculum involving learning and working together in teams, should result in each discipline gaining a greater understanding and appreciation of each other's discipline-specific knowledge and roles. Even in the short time that this group of students was together, I observed this to be possible. Teaching a core curriculum to students from different disciplines could also prevent duplication and sometimes assist with reducing teaching loads.

In concluding the study, I have tried to draw out the findings that support the literature or vice versa, and have also attempted to illuminate findings theoretically. As designers of interdisciplinary programmes, I would argue that we need to look at the programme not only from the point of view of designers and implementers, but also from the view of the learners. We need to be sensitive to learning histories, learner roles, the kind of tensions and disjunctions that may be experienced and devise ways to facilitate overcoming these disjunctions.

4. SUGGESTIONS FOR FURTHER RESEARCH.

Throughout the research I have identified areas that I could not give adequate time to research as well as new issues arising from the research that I felt warrant further exploration.

4.1 Relationships between discourses and professions.

I mentioned that through informal discussions with lecturers, I drew up a table (presented in Chapter 2) that gives perceived ideas of the percentage of influence each discourse has within the training of each separate health discipline. There is a need for further research into each curriculum to verify these perceptions and to determine how much each discipline needs to shift, with a view to assisting in locating major barriers and disjunctions.

4.2 Negotiation of disjunction.

The second recommendation for future research would include in-depth studies of individual students. The purpose would be to research how they experience and negotiate the disjunction between previous learning histories, within their personal lives and in their learner role, as the change takes place from the traditional education discourse to new ones.

4.3 Links between learner and practitioner roles.

I would also recommend researching whether learner roles have a link to practitioner roles. A longitudinal study needs to be done to assess whether there is a link between undergraduate interdisciplinary education (curriculum and practice) and subsequent teamwork and collaboration in (post-graduate) practice. A major constraint that could limit effective practice of interdisciplinary teamwork at the present sites of practice, would be the lack of training of the current established professionals who do not have experience of working in this way. To improve this situation, the Faculty could consider convening postgraduate or continuing education interdisciplinary courses on collaborative competences for professionals in the field.

4.4 Accountability and hierarchies.

Accountability structures may have to shift away from the existing model of strong vertical hierarchy so that strong, horizontal team leadership can emerge. The existing model could seriously hamper the development of innovative teamwork across professions. This issue also needs to be researched in the future.

4.5 Assessment in interdisciplinary education.

As interdisciplinary education increases, attention needs to be paid to the issue of assessment - and further research is needed in this field. It is important to adapt to the need to assess team and not only individual tasks. Valid instruments to assess interdisciplinary teamwork skills need to be developed and tested. The evaluation process in interdisciplinary education aims to measure the extent to which a learner individually and as a member of the health team has achieved the predefined educational objectives (Bajaj,1994:90). Different assessment tools for different phases of interdisciplinary education, especially with changing complexity of tasks, may still need to be developed (WHO 1988: 34-35).

I have briefly discussed the issue of assessment in relation to interdisciplinary education. This was a serious gap in the pilot study, as student assessment did not form part the programme, even though it's importance was discussed in the planning phase.

5. LIMITATIONS OF THE RESEARCH.

This research was conducted on a part-time basis and was limited to a minor dissertation. Time for the empirical research was also limited and complicated by the students' limited time to participate in the research.

In terms of methodology, my time was also limited. One consequence was that I could not report my interpretations back to the students or staff, to clarify or verify my interpretations. I have stressed that the interpretations in this research report are my own. In keeping with case study research, they are open to scrutiny, criticism and reinterpretation.

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LIST OF APPENDICES

19

Wellness Inventory

Set aside time for yourself to complete this inventory, and find a quiet place where you will not be disturbed while responding to the statements. Using the 3 headings of the columns on the left side of each page as a guide, record your score in one of the blanks alongside each statement.

2 = Yes, always, or usually

1 = Sometimes, maybe

0 = No, rarely

Select the one which best indicates how true the statement is for you *at this time.*

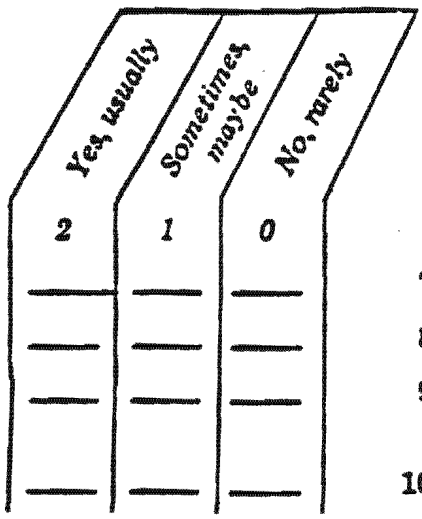
After you have responded to all the appropriate statements in each section, compute an average score from that section, and transfer that number to the Wellness Inventory Wheel on the last page of the questionnaire. When you have colored in the appropriate area between each spoke, you will have a clear presentation of the way in which you balance the many dimensions of your life. The information can be valuable to you to facilitate your growth in the areas of your choosing.

You will find some of the statements are really two in one. This was done to show an important relationship. If only one of them is true for you, check the middle column, giving yourself one point.

Many of the statements have further elaboration in the footnotes, to make their points clearer to you. If a statement indicates it has a footnote, please refer to the footnote before responding.

This questionnaire was designed to educate rather than test. Each statement describes what is believed to be a wellness attribute. The higher your score, the more of these attributes you believe to be true for yourself. It has been necessary to word some of the statements in the negative, i.e., "I don't smoke." If you do smoke, you would give yourself a lower score by saying, in effect, "no, it's not true that I don't smoke." See sample question 3 below. There are no trick questions to test your honesty or consistency—the higher the score, the greater you believe your wellness to be. All statements are worded so that you can tell what the more desirable answer is. This places full responsibility on you to answer each statement as honestly

Source: Abridged from the "Wellness Index," contained in *Wellness Workbook* by R.S. Ryan and J.W. Travis, Ten Speed Press, Berkeley, Ca., 1981. For further information contact Wellness Associates, 42 Miller Avenue, Mill Valley, Ca 94941.



7. I don't smoke.
8. I wear a safety belt when I ride in a car.
9. I see a big difference between blaming myself for a problem and simply being responsible for that problem.
10. I experience love for my people and things around me.

___ + ___ = ___ ÷ 10 = ☐ average score for section 1

Transfer to Wellness Inventory Wheel at end of activity.

SECTION 2—WELLNESS AND BREATHING

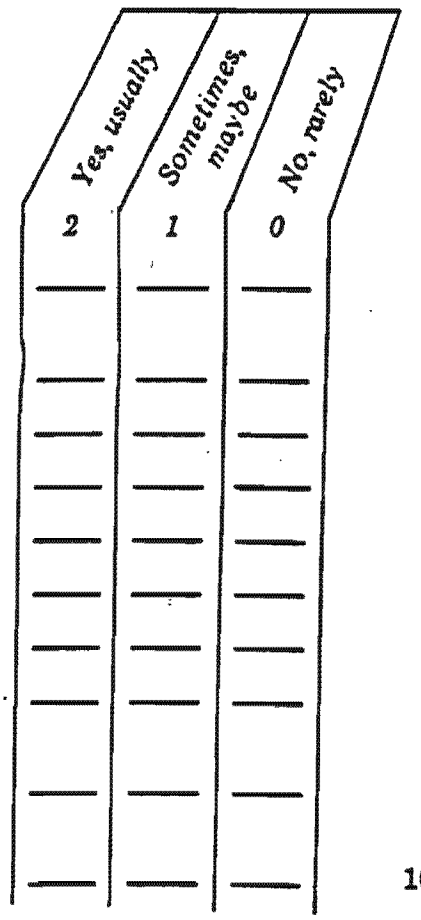
1. I stop during the day to become aware of the way I am breathing.
2. I meditate or relax myself for at least 15 to 20 minutes each day.
3. I can touch my hands to my toes easily when standing with knees straight.*
4. In temperatures of over 70°F., my fingertips feel warm when I touch my lips.*
5. I am at peace with myself.
6. My work is not overly stressful.
7. My personal relationships are satisfying.
8. I take time out for deep breathing several times a day.
9. I don't bite or pick my nails.
10. I don't feel tired and rundown (except after strenuous work).

___ + ___ = ___ ÷ 10 = ☐ average score for section 2

Transfer to Wellness Inventory Wheel at end of activity.

*Section 2. 3. A lack of spinal flexibility is another sympton of chronic muscle tension. 4. When finger temperatures are below 85°F (feel cool to the touch—lips are a good temperature to compare them with) and you are in a relatively warm environment (70°F or more), there is a high likelihood that anxiety is present or your mind is being overly active. Blood circulation to, and hence temperature of, the periphery of your body is reduced by the constriction of small arteries—another response of the sympathetic nervous system to anxiety. Many "cold handers" are completely unaware of this stress sign unless they consciously check hand temperature several times daily.

SECTION—WELLNESS AND SENSING



1. I take long walks, hikes, and/or outings to actively explore my surroundings.
2. I give myself presents, treats, or nurture myself in other ways.
3. I enjoy getting backrubs or massages.
4. I enjoy touching and hugging other people.*
5. I enjoy being touched and hugged by others.*
6. At times I like to be alone.
7. I like getting compliments and recognition from other people.
8. It is easy for me to give other people sincere compliments and recognition.
9. My place of work has largely natural lighting or full-spectrum lighting.*
10. I avoid extremely noisy areas (or wear protective earplugs).*

____ + ____ = ____ ÷ 10 = ☐ average score for section 3

Transfer to Wellness Inventory Wheel at end of activity.

SECTION 4—WELLNESS AND EATING

1. I am aware of the difference between refined carbohydrates (white flour, sugar, etc.) and complex (natural) carbohydrates.**

Section 3. 4, 5. Touch is one of the most unrecognized human needs for sensory input. "Plastic" or insincere touching or hugging is probably worse than none at all, however.
9. Glass windows and most artificial lighting severely limit the amount of "near" ultraviolet light reaching our eyes. Recent evidence shows a strong link between one's health and the amount of full spectrum light (natural or unfiltered sunlight and certain types of specially designed artificial lamps) which enters our eyes. Eyeglasses can be obtained with a special type of plastic lens which admits the important "near" ultraviolet light.
10. Very loud noises which leave your ears ringing can cause permanent hearing loss which accumulates with years and is usually not noticeable until one reaches 40 or 50. Small cushioned ear plugs (not the type designed for swimmers), wax ear plugs and acoustic ear muffs (which look like stereo headphones without wires) can often be purchased in sporting goods stores and should be worn in noise environments (around power tools, hammers used in confined spaces, loud music, heavy equipment, etc.).

**Section 4.* 1. Refined carbohydrates (sugar, white flour, white rice, and alcohol) have only calories and no minerals or vitamins. They are usually rapidly absorbed by the body, quickly burned, and leave a letdown feeling soon afterwards. Natural carbohydrates (fruits, vegetables, whole grains, legumes) contain a good selection of minerals and vitamins. They require time for digestion and hence provide a slower, steadier source of energy over a longer period of time.

	Yes, usually 2	Sometimes, maybe 1	No, rarely 0
2. I am satisfied with my diet.	___	___	___
3. I have fewer than five alcoholic beverages per week and fewer than three cups of coffee or tea per day (except for herbal teas).*	___	___	___
4. I don't take medications, including prescription drugs.	___	___	___
5. I drink fewer than five soft drinks per week.*	___	___	___
6. I add little or no salt to my food.*	___	___	___
7. I read the labels for the ingredients of the foods I buy.	___	___	___
8. I eat at least two raw fruits or vegetables each day.	___	___	___
9. I have a good appetite and maintain a weight within 15% of my ideal weight.	___	___	___
10. I know and feel the difference between "stomach hunger" and "mouth hunger."*	___	___	___

___ + ___ = ___ ÷ 10 = ☐ average score for section 4

Transfer to Wellness Inventory Wheel at end of activity.

SECTION 5—WELLNESS AND MOVING

1. I climb stairs rather than ride elevators.**	___	___	___
2. My daily activities include moderate physical effort (such as rearing young children, gardening, scrubbing floors, or work which involves being on my feet, etc.).	___	___	___

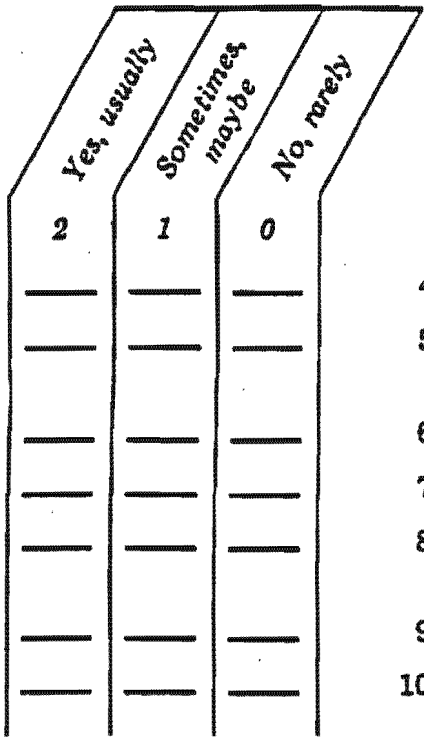
*Section 4. 3. Coffee and tea (other than herbal teas) contain stimulants which, if abused, do not allow your body to function normally.

5. Soft drinks are high in refined sugar which provides only "empty" calories and usually replace foods which have more nutritional value. Artificially sweetened soft drinks consumed in excess may have long-range consequences as yet not known. (Both types of soft drinks contain caffeine or other stimulants.)

6. Salting foods during cooking draws many vitamins out of the food and into the water which is usually discarded. Heavy salting of foods at the table may cause a strain on the kidneys and result in high blood pressure.

10. "Stomach hunger" is felt in the stomach and is a signal from the body that its cells need nutrients. "Mouth hunger" is experienced in the oral cavity as a desire to chew or suck something and is often a substitute craving for another more basic need such as being touched or acknowledged by self or others.

**Section 5. 1. If a long elevator ride is necessary, try getting off five flights below your destination and walking the rest of the way. You may need to apply pressure to building managers to keep stair doors unlocked.

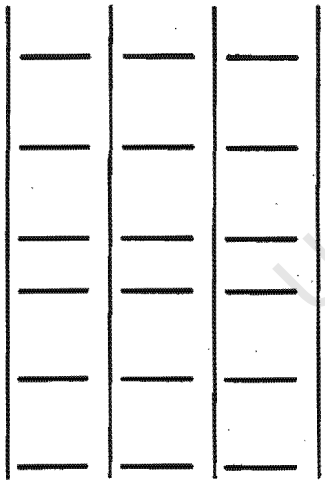


4. I feel OK about crying and allow myself to do so.*
5. I listen to and think about criticism of me by others rather than react defensively.
6. I have at least five close friends.
7. I like myself and look forward to the future.
8. I find it easy to express concern, love, and warmth to those I care about.
9. It is OK for me to ask for help.
10. I don't swallow or store my anger; I express it in a way which solves problems.

____ + ____ = ____ ÷ 10 = ☐ average score for section 6

Transfer to Wellness Inventory Wheel at end of activity.

SECTION 7—WELLNESS AND THINKING

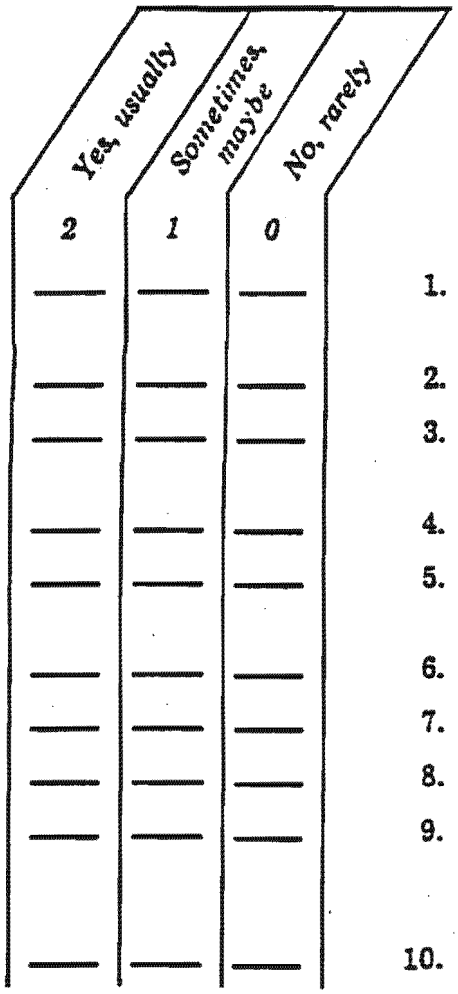


1. I am aware of the subject matter and emotional content of my thoughts.**
2. I am aware that I make judgments where I believe I am "right" and others are "wrong."**
3. It is easy for me to concentrate.
4. I am aware of changes in my body (breathing, muscle tension, skin moisture, etc.) in response to certain thoughts.
5. I notice that my perceptions of the world are colored by my thoughts at any given time.**
6. I notice that my thoughts are influenced by my environment at any given time.

*Section 6. 4. Crying over a loss or sad event is an important discharge of emotional energy. It is, however, sometimes used as a manipulative tool, or as a substitute expression of anger. Many males in particular have been erroneously taught that it is not OK to cry.

**Section 7. 1. It is possible to be thinking many thoughts and not notice their theme or emotional direction. The ability to observe thoughts can lead to greater problem solving abilities and peace of mind.
2. We all seem to make internal judgments (play "right-wrong games") most of the time. Rather than eliminating it, being conscious of this phenomenon and not taking it too seriously allows most of us to live more pleasantly.
5. Being aware of our internal distortions of perceptions can allow us to step back and re-assess a situation more objectively when it is important to do so.

SECTION 9—WELLNESS AND COMMUNICATING

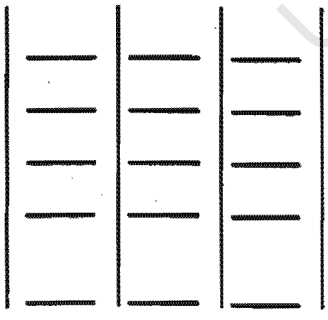


1. I can introduce a difficult topic and stay with it until I've received a satisfactory response from the other person.
2. I enjoy silence.
3. I consider my thoughts and feelings with care before responding to others.
4. I communicate clearly with friends and family.
5. I assert myself to get what I need rather than feel resentment towards others for taking advantage of me.
6. I admit my mistakes to others when I am aware of them.
7. I am a good listener.
8. I don't interrupt or finish others' sentences for them.
9. I let go of mental labels and judgments I attach to persons and things in my environment, and instead see them for what they are.
10. I am aware of the psychological "games" I play with others.*

____ + ____ = ____ ÷ 10 = ☐ average score for section 9

Transfer to Wellness Inventory Wheel at end of activity.

SECTION 10—WELLNESS AND SEX



1. I feel comfortable touching and exploring my body.
2. I think it's OK to masturbate if one chooses to do so.
3. My sexual education is adequate.
4. I feel good about the degree of closeness I have with men in my life.
5. I feel good about the degree of closeness I have with women in my life.

*Section 9, 10. Psychological games as defined by Eric Berne in *Games People Play* are complex unconscious manipulations which result in the players getting negative attention and feeling bad.

	Yes, usually 2	Sometimes maybe 1	No, rarely 0
1. I perceive problems as opportunities for growth.	____	____	____
2. I experience synchronistic events in my life (coincidences which appear to have no cause-effect relationship but happen more often than chance would dictate).*	____	____	____
3. I believe there are dimensions of reality beyond verbal description or human comprehension.	____	____	____
4. Confusion and paradox seem a necessary part of my growth though I may at times not be comfortable with them.	____	____	____
5. The concept of "god" has a personal definition and meaning to me.	____	____	____
6. I experience a sense of wonder and awe when I contemplate the universe.	____	____	____
7. I have abundant expectancy rather than specific expectations.	____	____	____
8. I do not pressure others to accept my beliefs.	____	____	____
9. I use the messages interpreted from my dreams to better live my waking life.	____	____	____
10. I enjoy practicing a spiritual discipline or allowing time to sense the presence of a greater force in guiding my passage through life.	____	____	____

____ + ____ = ____ ÷ 10 = ☐ average score for section 12

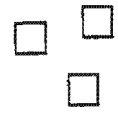
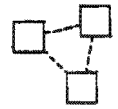
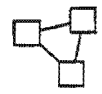
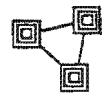
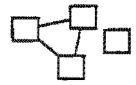
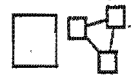
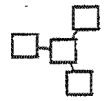
Transfer to Wellness Inventory Wheel at end of activity.

THE WELLNESS INVENTORY WHEEL

Copy your average scores from each section into the square next to its heading around the index circle on the next page. Fill in the corresponding amount of each pie-section using the scales provided. The scale begins at the center with 0.0 and reaches the edge at 2.0 The dotted circle corresponds to 1.0.

**Section 12, 2. Post Einsteinian physics (quantum mechanics, Bell's Theorum, etc.) indicate that the principle of causality (something is always caused by something else) may be as limited as Newton's theories of mechanics, and that we must expand our view to see that everything in the universe is connected to everything else, regardless of the space and time intervening.*

Table 2. The steps in multiprofessional education.

(1) Isolation		Each profession organizes its own teaching and is unaware of what is taught or learned in other professions
(2) Awareness		Teachers are aware of what is covered by other professions but no formal contact with regard to conceptualization, planning or implementation of teaching programme
(3) Consultation		Consultation about the teaching programmes between teachers from different professions
(4) Nesting		Aspects relating to the work of other professions are included in otherwise uniprofessional courses
(5) Temporal Co-ordination		Timetable arranged so that two or more professions can be scheduled for the same learning experience, e.g. a lecture but little formal interaction during the session
(6) Sharing		Two professions plan and implement joint teaching, with interaction between the professions in one part of a course. The remainder of the course has a uniprofessional focus
(7) Correlation		Sessions are scheduled in the programme for multiprofessional consideration of topics in an otherwise uniprofessional course
(8) Complimentary programme (*mixed programme*)		Multiprofessional teaching runs alongside uni-professional teaching
(9) Multiprofessional		The emphasis in the course is on multiprofessional education. Each profession looks at themes from the perspective of its own profession
(10) Interprofessional		Each profession looks at the subject from the perspective of its own and other professions
(11) Transprofessional		The multiprofessional education is based on the experience of the real world which provides a filter for the students' learning

APPENDIX C

NOAH INTERDISCIPLINARY PHC SEMINARS

BLOCK 4.- (6th, 13th, 20th Aug. 1997.)

DISCIPLINE

WHY DID YOU DECIDE TO STUDY THIS PARTICULAR DISCIPLINE ?

WHAT ROTATION OF YOUR COURSE ARE YOU DOING AT PRESENT ?
e.g. PHC, Geriatrics, Community etc.

WHAT **HOPES/EXPECTATIONS** DO YOU HAVE OF THESE THREE INTERDISCIPLINARY SEMINARS AT NOAH ?

WHAT **CONCERNS/FEARS** DO YOU HAVE REGARDING THESE 3 SEMINARS :

PRIMARY HEALTH CARE BLOCK - NOAH ATTACHMENT: STUDENT FEEDBACK

We would appreciate your response to this questionnaire to help improve the learning experience for future students.

SECTION 1

PLEASE INDICATE:	OT	PHYSIO	NURS	MED	DIET

REVIEWING THE ATTACHMENT YOU JUST COMPLETED IN 1997, PLEASE RESPOND TO EACH ITEM IN THE LIST BELOW BY WRITING ONE (AND ONLY ONE) OF THE FOLLOWING NUMBERS IN THE BOX:

1 = I liked this/thought it good/praiseworthy
2 = I found it satisfactory/acceptable
3 = I experienced difficulties with this item

1 The usefulness of this attachment as a learning experience ..... ☐ 1

2 The organisation of this attachment ..... ☐ 2

3 The clarity of orientation to this programme..... ☐ 3

4 The clarity of what the tutors expected of you as a student ..... ☐ 4

5 The tutors invited student participation..... ☐ 5

6 The tutors allowed sufficient time for questions..... ☐ 6

7 The usefulness of the following:

a. Home visits ..... ☐ 7

b. Seminars (in general)..... ☐ 8

i. MMSE and clinical epidemilogy..... ☐ 9

ii. Factors determining service utilisation ..... ☐ 10

iii. Role play..... ☐ 11

iv. Fundamentals of clinical interview..... ☐ 12

v. The dietitian in clinical practice..... ☐ 13

vi PHC approach to a complex case ..... ☐ 14

vii Wellness..... ☐ 15

viii Nature of suffering..... ☐ 16

8. This model is an efficient way of delivering health care (comparatively)... ☐ 18

9. This attachment has helped you to grow as a person..... ☐ 19

SECTION 2

Was there any aspect of this attachment that you found particularly interesting or valuable?

.....

.....

Has this experience changed a value/attitude? Describe briefly

.....

.....

Was there anyone on the attachment who made an impact on your learning experience (teacher/facilitator/client etc)? Describe briefly how this happened.

.....

.....

SECTION 3

Have you written any 3s in Section 1, indicating a problem area? If so:

a) select a maximum of three - those which caused the greatest difficulties; and
b) for each one of these, fill in one division below, as follows:

Fill in the item no. from Section 1 here (eg 04 for item 4)

Describe the difficulty here, plus a remedy if you have one

Fill in J, K or L here (See below)

☐☐ 41 42 ☐ 43

☐☐ 44 45 ☐ 46

☐☐ 47 48 ☐ 49

Classify the seriousness of each difficulty with a rating of J, K or L as explained below:

J = A major problem to me; I found it seriously impeded my ability to benefit from the course.
K = A substantial problem, but one which I was able to overcome.
L = A minor problem, but life would be easier without it.

APPENDIX D

APPENDIX E

ANALYSIS of QUANTITATIVE QUESTIONNAIRES (Evaluation forms)

1 = I liked this/thought it was good/praiseworthy
2 = I found it satisfactory/acceptable
3 = I experienced difficulties with this item

*38 of the 41 MED students, who attended the course during the year (1997), completed the evaluation forms.

TABLE 1. Evaluation of the three seminars.

Evaluation of seminars N = 38	1	%	2	%	3	%
PHC case	24	**63**	9	**24**	5	**13**
Nature of suffering	17	**47**	15	**40**	6	**16**
Wellness	15	**39**	14	**37**	9	**24**

TABLE 2. Evaluation of organisation, learning experience, teaching methods and key concepts.

Evaluation of course	1	%	2	%	3	%
Tutors invited student participation	29	**76**	6	**16**	3	**8**
Sufficient time for questioning	27	**71**	8	**21**	3	**8**
Clarity of what tutors expected of students	24	**63**	11	**29**	3	**8**
Organisation of programme	23	**61**	15	**19**	0	**0**
Helped to clarify concept of PHC	21	**55**	14	**37**	3	**8**
PHC is an effective way of delivering health care (comparatively)	20	**53**	14	**37**	4	**10**
This has helped you to grow as a person	20	**53**	13	**34**	6	**13**
Usefulness as learning experience	17	**45**	17	**45**	4	**10**
Clarity of orientation to the programme	16	**42**	18	**48**	4	**10**
Home visits	16	**42**	18	**48**	4	**10**

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Clarity of orientation to the programme	16	**42**	18	**48**	4	**10**
Home visits	16	**42**	18	**48**	4	**10**

The formal course evaluation forms, in the form of quantitative questionnaires, with closed-ended and open-ended questions, were used as a form of triangulation to increase the reliability of the data.

Table 1 is an analysis of the three seminars (PHC case management, wellness and the nature of suffering.)

PHC case management seminar - 87% of the respondents rated the seminars as praiseworthy (63%) to satisfactory (24%) . Only 13% had a negative response – this was related to the length of discussion in small groups and plenary.

These results comply largely with the qualitative results of the focus group interviews.In the qualitative, semi-structured focus group interviews, much of the learning gained was related to this seminar.

Wellness seminar - 76% of the respondents rated the seminars as praiseworthy (39%) to satisfactory (37%) and 24% had negative responses.

This seminar was not as highly rated as the PHC case management seminar and the criticisms were similar to the above. In addition, students mentioned in the focus group interviews that this seminar was more about personal awareness and growth, rather than learning about each other. Although they felt that was important, the main expectation expressed was to learn about each other role and how they could work as a team. These ratings also reflect the qualitative findings.

Nature of suffering seminar - 84% of the respondents found this seminar praiseworthy (44%) to satisfactory (40%) and only 16% had negative comments.

This seminar was rated as second best of the seminars. Many appreciated the need to be aware of suffering and in this seminar they also learnt more about each others approach to wellness and suffering as they discussed the case studies in the readings. The negative responses were mainly related to having to be involved in role-plays and a few of the medical students feeling that this "was set up to bash doctors." This was mostly related to their difficulties in shifting discourse and role as discussing in the qualitative findings. Most responses however, were positive and this complies with the qualitative findings.

Table 2 evaluates organisation, learning experience, teaching methods and key concepts.

In terms of organisation, learning experience and teaching methods, over 80% of each category was rated as praiseworthy to satisfactory. The quantitative results appear to reflect less problems and less negative responses than were elicited in the qualitative focus group interviews. This illustrates the importance of complimenting quantitative research with qualitative research, where respondents are given time and opportunity to voice their difficulties in a trusting environment. The fact that there were more difficulties expressed in the focus group interviews suggests that their responses were honest and that the portrayal of the results were accurate.